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THE UNIVERSITY OF ALBERTA

SEX ROLES AND CHILDREN'S INTERESTS

by

© MARLENE CUST

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Sex Roles and Children's Interests" submitted by Marlene Cust in partial fulfillment of the requirements for the degree of Master of Education.

Supervisor

Date Dec 31/76

To my mother

ABSTRACT

The purpose of this study was to carry out one of the recommendations of the Royal Commission on the Status of Women in Canada: that every question affecting women be re-assessed in a totally new climate, in a totally new frame of reference.

The writer's concern was for individuals of both sexes subject to the tyranny of traditional, outdated "masculine" and "feminine" sex roles. An androgynous conception of self-determination has been suggested as an ideal substitute. The area of children's interests was studied within the reference frame of current liberation ideologies.

What I Like To Do (Science Research Associates, 1954), an inventory of children's interests, was administered to a sample of 191 Grade 5 children grouped according to sex - 102 boys and 89 girls. The inventory covered eight interest areas: art, music, social studies, active play, quiet play, manual arts, home arts, and science. Children's responses were subjected to a multivariate analysis of variance, and Hotelling's T test established a very significant difference in means between groups. Frequencies and proportions of responses to individual items were determined and analysed. Data resulting from this analysis were presented in tabulated form and discussed under topical headings corresponding to the eight interest areas of the inventory. The importance of individual differences as opposed to group differences was pointed out.

Several conclusions are drawn and recommendations for further research are suggested. These recommendations reflect the conviction that society must change along with individuals if human liberation is to have far-reaching and lasting effects.

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TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
II.	RELATED LITERATURE	6
	Liberation Ideologies	6
	A. The Problem of Women Throughout History	6
	B. Sexism and Sex Role Stereotyping	10
	C. The Feminist Movement	16
	D. Men's Liberation	22
	E. "Gay" Liberation	25
	F. Human Liberation or Androgyny	27
	Sex Roles and Sex Differences	30
	A. The Nature of Sex Roles	30
	B. An Overview of Sex Differences	34
	C. Physical Differences	37
	D. Psychological Differences	40
	E. Aptitudinal Differences	43
	Theories of Sex Differences	48
	A. The Psychoanalytic Position	48
	B. The Social Learning Position	51
	C. The Cognitive-Developmental Position	53
	D. Sex Role Deviances	56
III.	THE STUDY OF INTERESTS	65
	A. The Nature of Interests	65
	B. An Overview of Interest Studies	69
	C. Sex Differences in Interests	74
	D. Techniques Used to Study Interests	85

Chapter		Page
	E. The Interest Inventory	89
IV.	METHODOLOGY	95
	A. The Research Hypothesis and Questions	95
	B. The Instrument	96
	C. Sample and Administration of Inventory	101
	D. Treatment of Data	103
V.	RESULTS AND DISCUSSION	104
	A. Results	104
	B. Discussion	113
VI.	IMPLICATIONS, RECOMMENDATIONS, CONCLUSION	120
	A. Implications	120
	B. Recommendations	124
	C. Conclusion	124

***

BIBLIOGRAPHY 126

APPENDIX I 137

APPENDIX 2 140

LIST OF TABLES

Table	Description	Page
1	Sex Role Stereotype Traits	75
2	Disadvantages of Same Sex Role and Advantages of Opposite One as Perceived by Males	23
3	Disadvantages of Same Sex Role and Advantages of Opposite One as Perceived by Females	24
4	Eight Instincts Accounting for Play Motives	72
5	Classification of Interests	73
6	Play Activities More Commonly Participated in by Boys Than by Girls at Practically Every Age	76
7	Play Activities More Commonly Participated in by Girls Than by Boys at Practically Every Age	77
8	Play Activities Which are Participated in About as Commonly by One Sex as by the Other	78
9	Similarity of Likes Between the Sexes	85
10	Breakdown of Items for Each Part Score	97
11	Intercorrelations Among the Eight Interest Scores	98
12	Composition of the Total Norm Group	100
13	Reliabilities of the Eight Interest Scores	102
14	Means and Standard Deviations for the Eight Interest Areas	104
15	Results of Hotelling's T Test	104
16	Results of Studentized T Tests	105
17	Items Liked by at Least 25% More Girls Than Boys Throughout the Eight Interest Areas	108
18	Items Liked by at Least 25% More Boys Than Girls Throughout the Eight Interest Areas	109
19	Items Liked by 75% or More of Both Sexes Throughout the Eight Interest Areas	110

Table	Description	Page
20	Items Liked by 25% or Less of Both Sexes Throughout the Eight Interest Areas	111
21	Items Liked by Approximately Half of Either Sex Throughout the Eight Interest Areas	112
22	Means and Standard Deviations of Present 1976 Study and Means and Standard Deviations of 1954 Maywood Tryout Study	113

LIST OF FIGURES

Figure	Description	Page
1	Hypothetical Distribution of Intelligence for the Two Sexes According to the Theory of Greater Male Variability	44
2	Theoretical Sequences in Psychosexual Development	57
3	Profiles of Group Means in Eight Interest Areas	106

CHAPTER I

INTRODUCTION

The Report of the Royal Commission on the Status of Women in Canada (1970) stated:

> Perhaps no prejudice in human society is so deeply embedded or so little understood. To create equality it will be necessary to create a totally new climate, a totally new frame of reference against which every question affecting women can be assessed (p. 389).

The purpose of this paper is to examine children's interests - just one of the many areas demanding reassessment - in the new climate, the new frame of reference brought about by modern liberation ideologies and new advances in the social sciences.

It should be pointed out that the writer's concern is not only for women but for all human beings subject to the tyranny of traditional stereotyped "masculine" and "feminine" sex roles. According to Cohen (1966):

> there is a considerable incompatibility between many people's sense of identity as persons and as sexual beings, or, to put it another way, between society's traditional definition of the person's sexual role and the optimal development of his assets as a person (p. 79).

The above statement quite aptly states the thesis of the present paper. Over-emphasis or misplaced emphasis on sex roles and efforts to establish sex norms of behavior during early childhood take their toll. Many young people, under such pressures, choose to sacrifice their human potentiality in order to maintain their "masculinity" or their "femininity".

Liberation movements, a phenomenon of the 1960's and 1970's, have encouraged a more androgynous attitude concerning sex roles in our society. A concerted effort by members of these movements to destroy sex

role stereotypes has led to a wider movement which is sometimes referred to as "human liberation".

The position of this paper is as follows: the traditional conceptions of "masculine" and "feminine" roles are inappropriate to the world of the twentieth century. For sex equality to become a reality, a socially androgynous conception of the roles of males and females is necessary. This implies the recognition, in actual practice as well as theory, that the sexes are "equal and similar in such spheres as intellectual, artistic, political and occupational interests and participation, complementary only in those spheres dictated by physiological differences between the sexes" (Rossi, 1964: 99).

Rossi (1964) has outlined some of the characteristics of this new conception:

> An androgynous conception of sex role means that each sex will cultivate some of the characteristics usually associated with the other in traditional sex role definitions. This means that tenderness and expressiveness should be cultivated in men, so that a male of any age in our society would be psychologically and socially free to express these qualities in his social relationships. It means that achievement need, workmanship and constructive aggression should be cultivated in women so that a female of any age would be similarly free to express these qualities in her social relationships (p. 99).

This androgynous conception of sex roles differs from the feminist goals of earlier years. Whereas they demanded the right to share in a "man-made world", the androgynyous definition of sex equality "stresses the enlargement of the common ground on which men and women base their lives together by changing the social definition of approved characteristics and behavior for both sexes" (Rossi, 1964: 99).

To what extent, if any, has the modern sexual revolution contributed to freeing children from the inhibiting pressures they are under to conform to stereotyped adult concepts of"masculinity" and "femininity"? What are children's concepts of appropriate male and female interests today? Is the human liberation reaching children at all levels of society? Or are the effects of liberation limited to those children of a very select group of parents who are interested and active members of liberation movements?

It is the writer's suggestion that the various movements towards liberation are not as effective as they are sometimes thought (and hoped) to be. First of all, liberation movements are basically a middle-class phenomenon which has not succeeded in reaching the lower socio-economic classes where sex role stereotyping is most strongly entrenched. Hetherington (1970), in a discussion of class differences, points out that in the lower classes there is "more rigid delineation of sex roles, less permissiveness for violation of these standards, and more stereotyped masculine or feminine models offered by parents" (p. 197).

Secondly, many people, parents and professionals alike, adopt the viewpoint that it is easier to teach an individual to conform than to try to change the intolerance of society. The result is that relatively few children experience the freedom to deviate from the social stereotypes of appropriate "masculine" and "feminine" behavior. Those who do deviate are labeled psychopathic or "queer", referred for treatment, and either learn to conform or become social outcasts.

Thirdly, most of those who do ardently advocate freedom from the stereotypes of sex roles find themselves faced with a dilemma when it comes to incorporating their beliefs into the practical realm of

socializing their own children. Judy LaMarsh, a Canadian feminist, echoes the innermost feelings of probably most parents in her words:

> If I were to have a girl child right now, I don't know if I would have the strength of my own convictions to bring her up as a person. Perhaps she would be happier free of her role. Then too she might be very unhappy, for as a child growing up she would hit so many of the taboos in the world. So perhaps not socializing her in a traditional manner would be a dreadful thing to do. I would still be more likely to put the frilly clothes on her, still teach her all the things that I was taught and all my sisters were taught thousands of years before me; because I don't really know what happens when you teach a child otherwise (in Nunes and White, 1972: 48).

It is not easy for parents to encourage attitudes and behaviors in their offspring that may essentially make the latter "social deviants" among their peers, in their schools, and in society at large. Furthermore, those parents who do attempt to raise their children in such an atmosphere of freedom from stereotyped roles are working against tremendous odds. The media, education at all levels, and the various other social institutions still very strictly enforce the traditional sex roles.

Human liberation is still a long way off. The writer tends to share the opinion of those who believe that a radical restructuring of society is necessary before the ideals of liberation can have very far-reaching effects. This will come about by a very slow gradual evolution rather than with the suddenness of revolution.

Among the multitude of sex differences demanding a reappraisal in the light of current advances in science and various liberation ideologies, the writer has chosen that of interests, particularly those of children, the "future generation". This choice was made because of the writer's concern that children's individual creativity and creative

individuality was being stifled and distorted because of society's demands that they conform to the traditional stereotyped norms of sex-typed behavior. A survey of interests in a random sample of children will probably indicate, even today, a fairly sharp delineation of interests according to sex. Such a study of interests makes up the research design of the present paper.

A random sample of public school children at the grade five level in the city of Edmonton will be administered an interest inventory. Responses to the inventory will then be analyzed to determine what are the differences between the interests of boys and girls at this age level. Common interests will also be determined. An interest inventory published by Science Research Associates (1954) will be used in the study.

Chapter II presents a review of the literature related to the various aspects of sex roles. First of all, the problem of women throughout history will be analyzed. This will be followed by a discussion of sexism and sex role stereotyping and a description of the various liberation movements surrounding the central issue of women's liberation. Certain relevant issues are also discussed. These issues are sex roles and sex differences, the theories which attempt to explain the existence of these differences, and sexual deviance. Chapter III discusses the nature of interests, followed by an overview of interest studies and an examination of sex differences in interests. An analysis of the various techniques used to study interests, and in particular of the interest inventory, will also be included. Chapter IV describes the methodology of the research project, the questions to be answered, the instrument, the sample, and the treatment of data. Chapter V presents and discusses the results. Chapter VI consists of implications, recommendations, and the conclusion.

CHAPTER II
RELATED LITERATURE
Liberation Ideologies

A. The Problem of Women Throughout History

Davis (1971) has described an advanced ancient civilization that ended before the dawn of written history, offering as proof of its existence the familiar controversial arguments popularized by Von Daniken (1967): fantastic ruins, improbable objects, incredibly accurate maps and calendars, a highly sophisticated original language. Davis theorizes, supporting her argument with mythological, archeological, and anthropological data, that there was once a gynocratic world, where women ruled and men were servants. Reed (1971), an anthropologist, thinking in a similar vein, suggests that a "falsification of natural and social history has been propagated to exonerate a sexist society" (p. 3). According to Reed, "the oppression of women is justified on the ground of their biological makeup" (pp. 3-4). Reed (1975) traces woman's evolution from matriarchal clan to patriarchal family and argues "that female inferiority today is not biologically determined, that it has not been a permanent fixture throughout history, and that our sex was once the organizers and leaders of social life" (p.xviii).

Whatever may be the truth concerning this issue, the fact remains that it is indeed a lost civilization. Except for a few primitive tribes where matrilineality exists, there is ample proof that our culture is definitely a man-made world, as Ellis (1928) points out:

> This characteristic of being made by man applies not only to the roads, buildings, and machinery about us; it applies also to a considerable extent to our knowledge, our opinions, and our art, including literature. The history and the scientific

> theories we read are for the most part the expressions of men. And men are not generally noted for their modesty when passing judgment on their own abilities. It is thus not surprising, if indeed it is not to be expected, that a survey of historical views on the question of sex differences would show that men have been credited with greater intellectual capacity than women. There were few literary and scientific opponents of the idea of masculine superiority, and so it remained an unproved but generally accepted dictum until recent times (p. 247).

Our civilization has a long history of patriarchal domination where man - the male of the human species - is the focal point of the universe and the lord of all creation. Certain modern writers (Andelin, 1963; Tiger, 1969) still hold and propagate this notion.

It is generally agreed upon that the Judeo-Christian religion played a major role in the devaluation and repression of women. The leaders of the early Christian church were Jews, bred to the Hebraic tradition that women were of no account and existed solely to serve men. The misogyny of St. Paul is quite familiar. He repeated again and again: "Let women be silent", "The man is the head of the woman", "The man is the servant of God, but the woman is the servant of man", "Woman was made for man", "Wives, submit to your husbands", and so on ad nauseam, distorting the message and example of the gentle Christ who had treated women with much respect. As early as the second century of the Christian era, an eminent Christian bishop, St. Clement, announced that "every woman should be overwhelmed with shame at the very thought that she is a woman" (in Davis, 1971: 231).

Even today the Jewish male, in his morning prayer, gives the following thanks: "Blessed art thou, o Lord our God, King of the Universe, that I was not born a woman" (in Nunes and White, 1972: 5). The sacred scriptures of the Hindu and Moslem religions also present a view of woman as

subservient and inferior. It is written in the Hindu Code of Manu: "In childhood a woman must be subject to her father; in youth to her husband; when her husband is dead, to her sons. A woman must never be free of subjugation" (in Nunes and White, 1972: 5). The Koran states that "men are superior to women on account of the qualities in which God has given them pre-eminence" (in Nunes and White, 1972: 5).

If one really believes that these scriptures were inspired by Almighty God, then one necessarily must believe in the inferiority of the female sex. A modern writer, Andelin (1963), bases her entire thesis of "fascinating womanhood" primarily on the fact that the Bible says that women should be subject to men. On the other hand, if one recognizes the various scriptures as the embodiment of the beliefs of a specific human culture, they are much more fallible.

The world, almost in its entirety, has long been subjected to the influence of one or the other of these religions. Throughout the centuries, a few lone figures (e.g. Plato, Christ, John Stuart Mills, Frederick Engels) have denounced sexual dscrimination and have granted women the same respect, consideration, and dignity as men. But, on the whole, history is filled with the statements of great men and a few great women who have defined the female of the human species as an inferior being, who limited her worth to her reproductive function, or who made her into a fragile, ethereal thing of beauty unsuited to cope with the very real challenges of being a person.

Aristotle has said that "the female is a female by virtue of a certain lack of qualities. We should regard the female as afflicted with a natural defectiveness" (in Nunes and White, 1972: 4). Pythagoras' view was no more complimentary: "There is a good principle which created order,

light, and man; and a bad principle which has created chaos, darkness, and woman" (in Nunes and White, 1972: 8). Rousseau stated: "Woman was made to yield to man and put up with his injustice" (in Nunes and White, 1972: 4). Thoreau's words are most unflattering: "In the East women religiously conceal that they have faces, in the West that they have legs. In both cases they make it evident that they have but little brains" (in Nunes and White, 1972: 4). Nietzsche has said: "A man must (...) comprehend women as a possession, a property that can be closed off, as something predestined for service and thereby fulfilling its nature" (in Nunes and White, 1972: 4). Jonathan Swift wrote: "A very little wit is valued in a woman, as we are pleased with the few words of a parrot" (in Davis, 1971: 295). Tennyson held the view that "woman is the lesser man" (in Nunes and White, 1972: 4), while Thackeray claimed that "to be beautiful is enough. If a woman can do that who shall demand more from her? You don't want a rose to sing" (in Nunes and White, 1972: 2). De Balzac stated that "a woman who is guided by the head and not by the heart is a social pestilence" (in Nunes and White, 1972: 5), and Conrad agreed: "A woman with a masculine mind is not a being of superior efficiency; she is simply a phenomenon of imperfect differentiation - interestingly barren and without importance" (in Nunes and White, 1972: 8).

Queen Victoria, who gave her name to an era noted for its extremes in female subjugation, called upon the help of everyone "in checking this mad, wicked folly of Women's Rights, with all its attendant horrors" (in Nunes and White, 1972: 10). She strongly believed that "woman would become the most hateful, heartless, and disgusting of human beings were she allowed to unsex herself; and where would be the protection which man was intended to give the weaker sex?" (in Nunes and White, 1972: 10).

Freud, an arch villain as far as feminists are concerned, dismissed woman's yearning for equality as "penis envy". He confessed, after having convinced much of the modern world that for the female sex "biology is destiny":

> That is all I had to say about the psychology of women. It is admittedly incomplete and fragmentary, and sometimes it does not sound altogether flattering. You must not forget, however, that we have only described women in so far as their natures are determined by their sexual function. The influence of this factor is, of course, very far reaching, but we must remember that an individual woman may be a human being apart from this. If you want to know more about femininity, you must interrogate your own experience, or turn to the poets, or else wait until Science can give you more profound and more coherent information (1933: 60-61).

As was seen, in the previous pages, the poets whom Freud suggested one consult, and other great personages in history had few positive views about women. One is left feeling quite sure that Freud would not have made the same recommendation with regard to the male sex and masculinity.

B. Sexism and Sex Role Stereotyping

Although sexism has a very long history in our culture, it is actually a relatively new term. It was first defined by Kathleen Shortridge in 1970 as:

> (1) a belief that the human sexes have a distinctive makeup that determines their respective lives, usually involving the idea that one sex is superior and has the right to rule the other;
> (2) a policy of enforcing such asserted right;
> (3) a system of government and society based upon it (in Frazier and Sadker, 1973: 2 - footnote).

According to Margaret Evans, "sexism refers to all those attitudes and actions which relegate women to a secondary and inferior status in society" (in Every Woman's Almanac 1976: 6).

It was the suggestion of the Royal Commission on the Status of Women in Canada (1970)

> that women constitute a psychological minority group whose members, like other groups of people treated as inferior, have accepted the conventional social constraints and mental images of themselves and are consequently little inclined to identify with the collective problems of their own group (Toews, 1973: 1).

Women have been referred to as "the 51 percent minority group" (Joreen, in Toews, 1973: 5). There is much evidence that women, though not a statistical minority, fit the definition of a minority group. According to Louis Wirth:

> A minority group is any group of people who because of their physical or cultural characteristics, are singled out from the others in the society in which they live for differential and unequal treatment, and who therefore regard themselves as objects of collective discrimination (in Hacker, 1951: 39).

When first encountered, the idea that women suffer from prejudice and discrimination seems, to men and women alike, like some wild scheme devised by members of the Women's Liberation Movement to draw attention to their cause. However, upon closer examination of existing societal attitudes, practices, and statistics, it becomes evident that these prejudices and discriminations are very blatant and widespread. A large accumulation of literature has analysed and decried discriminatory practices in education (Gornick and Moran, 1971; Frazier and Sadker, 1973; Stacey et al., 1974), in the occupational field (Glazer-Malbin and Waehrer, 1972; Stephenson, 1973), and in the areas of counselling and mental health (Chesler, 1972; Pietrofesa and Schlossberg, 1972; Tiedt, 1974; Tittle, 1974). History has been scrutinized (Buckmaster, 1966; Innis, 1966; Nochlin, 1971; Ozick, 1971; Spencer, 1974) as well as the institution

of marriage and the family (Dreitzel, 1972; Sussman, 1972; Hobart, 1973; Moreux, 1973; Veevers, 1973). The rights of various minority groups of women such as Indians (Cheda, 1973) Blacks (Robinson, 1969; Rubin, 1969; Stimpson, 1971; Silvers, 1974) prisoners (Rosenbluth, 1973) and "gays" (Abbott and Love, 1971; Kelly, 1972; Dawson, 1975) have been proclaimed and promoted. The traditional socialization of children into "masculine" and "feminine" roles and norms of behavior has been analyzed, questioned, criticized, undermined (Marmor, 1965, 1968; Gornick and Moran, 1971; Frazier and Sadker, 1973; Stacey et al., 1974). Marxism and revolution have been extolled as the only means of attaining sexual equality (Lund, 1970; Firestone, 1970; Reed, 1971, 1975; Waters, 1972; Rowbotham, 1973). Hacker (1951) has quite adequately summarized formal discriminatory practices against women. She states:

> In general, they take the form of being barred from certain activities or, if admitted, being treated unequally. As female, in the economic sphere, women are largely confined to sedentary, monotonous work under the supervision of men, and are treated unequally with regard to pay, promotion, and responsibility.... Women's colleges are frequently inferior to men's. In coeducational schools women's participation in campus activities is limited.... Socially, women have less freedom of movement, and are permitted fewer deviations in the properties of dress, speech, manners. In social intercourse, they are confined to a narrower range of personality expression.
>
> (...) In the specially ascribed status of wife, a woman (...) has no exclusive right to her earnings, is discriminated against in employment, must take the domicile of her husband, and in general must meet the social expectation of subordination to her husband's interests. As a mother, she may not have the guardianship of her children, bears the chief stigma in the case of an illegitimate child, is rarely given leave of absence for pregnancy. As a sister, she frequently suffers unequal distribution of domestic duties between herself and her brother, must yield preference to him in obtaining an education, and in such other psychic

> material gratifications as cars, trips, and living away from home (pp. 40-41).

Although this outline was written 25 years ago, most of it remains relevant today.

At this point, one is inclined to wonder where lies the responsibility for such a situation. Both biological-genetic factors (Freud, 1925, 1962, 1963; Ellis, 1928; Erikson, 1965; Hamburg and Lunde, 1966; Tiger, 1969) and cultural-environmental conditioning (Mead, 1933; Lynn, 1959; Kagan, 1964; Kohlberg, 1966; Mischel, 1966) have been suggested by various authors. Biological-genetic factors hold less importance today than a few decades ago when the Freudian notion that "biology is destiny" was popular, although there are indications of a new interest in this area. Nowadays, the schools, the home, media, religion, politics, the economy are all called upon, in turn or in conjunction, to shoulder the blame. Obviously, attempting to lay the full responsibility on any one source is a senseless exercise in scapegoating. According to Frazier and Sadker (1973):

> Sexist attitudes are woven throughout the whole fabric of society: they are in the mass media bombardment that depicts enamored housewives extolling the hygienic cleanliness of their bathroom bowls; in religious institutions that allow only male spokesmen to lead congregations in prayer to a male God; in the more than one thousand state laws that restrict a married woman's property rights; in the marriage ceremony where the wife gives up her father's name only to assume that of her husband, never having a name to call her own; in the very nature of language where the universal pronoun is 'he' and all humanity is subsumed in the word 'mankind' (....) Our system of education, as perhaps the most organized and systematic agent of socialization, must assume a heavy share of the responsibility and of the blame (pp. 73-74).

In many ways, sexism is analagous to racism. Myrdal is quoted as saying in 1944:

> As in the Negro problem, most men have accepted as self-evident, until recently, the doctrine that women had inferior endowments in most of those respects which carry prestige, power, and advantages in society (....) As the Negro was awarded his 'place' in society, so there was a 'women's place' (in Toews, 1973: 5).

This quote suggests another related issue: that of sex role stereotyping. Rosenkrantz et al (1968) defined a sex role stereotype as "a consensual array of beliefs about the differing characteristics of men and women" (in Toews, 1973: 9). Whereas sexism applies almost uniquely to females, both sexes suffer from sex role stereotyping.

Chafetz (1974), in Table 1 (see p. 15) summarizes the results of a study in which several groups of university students discussed the question "What kinds of words and phrases do you think most Americans use to characterize males compared to females, or 'masculinity' versus 'femininity'?" Toews (1973) administered a sex role stereotype questionnaire to male and female university sutdents and obtained much the same categorization as did Chafetz.

It is a much disputed question as to which sex suffers most from sex role stereotyping. Research has demonstrated the relatively unfavorable character of the female stereotype in our society. To be sure, at first thought, it certainly seems that the aggressive, independent, active, unemotional, intellectual male has almost all the desirable attributes. But this is not necessarily true. In many ways the female experiences considerably more freedom to be real; the male, on the other hand, often feels obliged to hide much of his real self from himself and from others.

> The male role, as personally and socially defined, requires man to appear tough, objective, striving,

Table 1

Sex Role Stereoytype Traits

Characteristics	Masculine Traits	Feminine Traits
I. Physical	Virile, athletic, strong Sloppy, worry less about appearance and aging Brave	Weak, helpless, dainty, nonathletic Worry about appearance and aging Sensual Graceful
II. Functional	Breadwinner, provider	Domestic Maternal, involved with children Church-going
III. Sexual	Sexually aggressive, experienced Single status acceptable; male "caught" by spouse	Virginal, inexperienced; double standard Must be married, female "catches" spouse Sexually passive, uninterested Responsible for birth control Seductive, flirtatious
IV. Emotional	Unemotional, stoic, don't cry	Emotional, sentimental, romantic Can cry Expressive Compassionate Nervous, insecure, fearful
V. Intellectual	Logical, intellectual, rational, objective, scientific Practical Mechanical Public awareness, activity, contributor to society Dogmatic	Scatterbrained, frivolous, shallow, inconsistent, intuitive Impractical Perceptive, sensitive "Arty" Idealistic, humanistic
VI. Interpersonal	Leader, dominating Disciplinarian Independent, free, individualistic Demanding	Petty, flirty, coy, gossipy, catty, sneaky, fickle Dependent, overprotected, responsive Status conscious and competitive, refined, adept in social graces Follower, subservient, submissive
VII. Other Personal	Aggressive Success oriented, ambitious Proud, egotistical, confident Moral, trustworthy Decisive Competitive Uninhibited, adventurous	Self-conscious, easily intimidated, modest, shy, sweet Patient Vain Affectionate, gentle, tender, soft, innocent Not aggressive, quiet, passive Tardy Noncompetitive

(in Chafetz, 1974: 35-36)

> achieving, unsentimental, and emotionally unexpressive. But seeming is not being. If a man is tender (behind his persona), if he weeps, if he shows weakness, he will likely be viewed as unmanly by others, and he will probably regard himself as inferior to others (Jourard, 1971: 22).

This is our heritage. Sexism and sex role stereotyping have defined for us - males and females both - what we are, what we should be, what we cannot be. The first step for anyone in reaching towards freedom is to be able to see oneself, and the world, through one's own eyes and not through the eyes of others. This is what liberation movements are all about.

C. The Feminist Movement

As a world movement, feminism is usually dated from 1792, when Mary Wollstonecraft Godwin followed her "Vindication of the Rights of Man", a tract written under the inspiration of the French Revolution, with a companion piece entitled "A Vindication of the Rights of Woman". In this tract, she attacked the notion that women existed only to please men and demanded that they be treated as persons in their own right. "I have thrown down my gauntlet", she challenged. "It is time to restore women to their lost dignity, and to make them (...) part of the human species" (in Davis, 1971: 297).

In colonial North America, women enjoyed a "scarcity value". They worked alongside the men, and held jobs as teachers, butchers, carpenters, doctors, storekeepers, judges - whatever the need of the moment. But once the pioneers were firmly established in their new homes, women were once again confined to their duties as wives and mothers, encouraged to stay at home and be feminine as were their European forebears.

In the late 1800's and early 1900's various suffragette and suffragist movements in Britain, the U.S.A., and Canada demanded and finally obtained the right of women to vote. Nunes and White (1972) have outlined the highlights of the suffragist movement in Canada.

During World War I, women performed many traditionally masculine tasks and proved that they were equally as capable as their male counterparts. After the war, employers avoided equal pay laws by simply refusing to give women "men's jobs", but they could no longer say that women belonged at home because of their weakness and incompetence. There followed an era of achievement and new freedom for women, brought about mainly by the war and the vote. Many women pursued higher education or went into politics. Single girls got jobs right after high school; the exhilarating independence they enjoyed helped them forget that they were hired because they were cheap and dispensable employees.

Once again during World War II, women became crane operators, riveters, truck drivers. Married women and even mothers went to work. Women were welcomed in law schools and medical schools, in the professions, and in the armed forces. After the war, however, men took back their old jobs and even invaded some positions that were traditionally feminine; they became nurses, social workers, librarians, and elementary school teachers. Married women were told to go home, whether they wanted to or not, and single girls were encouraged to marry young and raise families. Most people felt that a woman worker was taking a job away from a man. Career women were frowned upon and those who persevered were quite conscious of choosing a public life at the expense of a private life and few of them married.

The 1950's saw an unprecedented return to family life. As Benston (1969) points out: "The 'cult of the home' makes its appearance during times of labor surplus" (p. 125). Sadly enough, the early half of the century had seen the "gradual admission of women into professions which they declined to follow, into parliamentary freedoms which they declined to exercise, into academics which they used more and more as shops where they could take out degrees while waiting to get married" (Greer, 1970: 11). By 1960, feminism was all but dead, and nobody seemed to care.

Then a second feminist wave revived the spirit of the old suffragists. Women began to speak and to write, decrying the inferior status of women in our culture. They not only demanded reforms as had their genteel grandmothers, but in a very ungenteel fashion they clamored for revolution. The celebrated French novelist, Simone de Beauvoir (1953), was a forerunner of the new movement. She strongly affirmed that "one is not born, but rather becomes a woman", and that it is "civilization as a whole that produces this creature, intermediate between male and eunuch, which is described as feminine" (p. 9). But it was Friedan (1963) who actually ignited what has come to be known as the Women's Liberation Movement. She suggested that there was a "schizophrenic split", a "strange discrepancy between the reality of our lives as women and the image to which we were trying to conform, the image that I (...) call the feminine mystique" (p. 7).

Friedan was followed by a number of angry women (Mitchell, 1966; Bird, 1969; Millett, 1969; Firestone, 1970; Greer, 1970; Davis, 1971; Rowbotham, 1973; Chafetz, 1974) who irreverently flouted the long-established theories of Freud, Mead, and Spock, and demanded a total

demolition and reconstruction of society as the only adequate way of giving women equality. One extremely bitter group headed by Solonas (1971) even advanced the extermination of men as a strategy for allowing women to move back into humanity.

Not all the new women see eye to eye. There are many schisms in the sexual revolution. Bird (1969) has neatly catalogued the various proponents into four categories: the Old Masculinists, the New Masculinists, the Old Feminists, and the New Feminists. Although the classification is somewhat arbitrary, it is useful to the uninitiated who are oftentimes confused by so many apparently conflicting views.

Old Masculinists believe that woman's place is in the home, that her work is prescribed by her anatomy, and that she is mentally and physically unable to do man's work. Freud (1925, 1933), Scheinfeld (1943), and Tiger (1969, 1975) are Old Masculinists. So are, according to Bird, most legislators, lawyers, doctors, small businessmen, farmers, self-employed craftsmen, small-town uneducated people, and all those who say "boys should be boys and girls should be girls". Old Masculinists are also found among nurses, secretaries, housekeepers and married women who do not go out to work.

New Masculinists are all for updating somen's traditional role. They are all for women working, providing their jobs don't change the lives of men. They believe that the problem is not to make women more like men, but to teach men to understand the unique contribution women have always made. The female sexual function is glorified, and feminine values and temperamental traits are idealized. They preach that women do have a special place in life, and this "specialness" is extolled to the point that some males actually suffer from "uterus envy". Mead (1935, 1949,

1975), Montagu (1954), Riesman (1950, 1964), and Horney (1932) are New Masculinists. So are all those who seek to educate, liberate, and encourage women to extend the feminine role beyond home duties to help men in business, professions, and politics.

Old Feminists are out to prove that women can be like men, that "anything you can do, I can do better". All their efforts are expended in an effort to "make it in a man's world". On the other hand, New Feminists think sex roles are obsolete at work and should not be revived. They see no use in ascribing special advantages or handicaps to women in most jobs. They are not out to broaden their horizons to include man's world and to get a "piece of the action". They want to "remake the world men have created from top to bottom, beginning with the radical reform or abolition of marriage and the family, and they mean to start with themselves" (Bird, 1969: 207).

Because of the extensive and rather disorganized literature on the subject, the following question is justifiable: what exactly are modern women's demands and complaints, attitudes and values? Although not all groups agree, the following summary by Bird (1969) is probably representative of the great majority.

> LOVE is the most important human relationship and is available to any two or more individuals of any sex who care deeply for each other and are committed to contributing to each other's personal growth. Love may or may not include sexual relationships and should not be confused with Romantic Love, a putup job now utilized to trap women into giving up their own identities.
>
> HOME AND FAMILY must be an egalitarian institution to which all contribute equally. It can comprise any combination of adults and children, whether related by blood or sexual ties, who find it personally rewarding to live together. New forms of home and family must be developed by personal experimentation.

CHILDREN must be a fully optional responsibility for both men and women. Women must have the right to terminate any pregnancy for any reason, and no loss of prestige should attach to any person who chooses not to reproduce. The rearing of children shall be the equal responsibility of mother and father and shall not be considered a full-time job for anyone, or the source of any woman's identity.

DIVORCE must be available to either partner without fault.

ALIMONY degrades a wife by assuming that she has been supported in return for sexual favors and is entitled to severance pay when she is jilted.

JOBS must be available to both sexes on the basis of individually determined capacity, without presumption that the required capacity is more likely to occur in a member of one sex or the other.

CONSUMER GOODS shall not be promoted as contributors to masculinity or femininity or by exploiting the sexual attraction of women employees or images.

MEDIA shall not brainwash women and girls into accepting a limited, domestic role.

SCHOOLS ditto.

SEX DIFFERENCES in ability and responses which can be proved by objective testing must be ascribed to the way boys and girls are brought up until they can be specifically attributed to anatomical differences.

SEX ROLES based on a division of labor between men and women are not inevitable in the world of the future just because they have been universal in the past.

PSYCHOANALYSIS has crippled women by attempting to "adjust" them to a feminine role unacceptable to free human beings.

PENIS ENVY falsely projects on women the high valuation males put on their genitals. Clitoris envy is more logical, because women are capable of longer and deeper orgasm than men can sustain.

> FREUD made the mistake of assuming that Victorian marriage and family arrangements that subordinated women to men were inevitable and desirable.
>
> MARX saw that the bourgeois family enslaved women by making them the private property of their men (pp. 208-209).

D. Men's Liberation

While females are severely handicapped by their "femininity", being a male has its own handicapping sets of laws and social rules, expectations, and constraints. Extremely little has been written in the field of "men's liberation", possibly because men are even less aware of or concerned with their need to be liberated than are women. Brenton (1966), Jourard (1972), and Pleck and Sawyer (1974) have profiled in depth the North American male in today's contradictions relating to "masculinity", fatherhood, and modern marriage. They provide an interesting survey of the dilemma of the males today who weaken themselves by hanging on to traditional concepts of "masculine" strength, and encourage men and women alike to redefine themselves in order to attain true freedom and self-fulfillment.

Fasteau (1972) recognizes that the goals of socialization and the problems of men are not only different but virtually the inverse of those of most women. Chafetz (1974) quotes the results of a study comparing the advantages and disadvantages of the sex roles. Results of this study are reported in Tables 2 and 3 (see pp. 23-24).

Examination of these two tables reveals that masculine disadvantages consist overwhelmingly of obligations with a few proscriptions, whereas the disadvantages of the feminine role arise primarily from proscriptions, with a few obligations. Thus males complain about what they must do, while females complain about what they cannot do.

Table 2

Disadvantages of Same Sex Role
and
Advantages of Opposite One as Perceived by Males*

Male Disadvantages	Female Advantages
Can't show emotion (P)	Freedom to express emotions (R)
Must be provider (O)	Fewer financial obligations; parents support longer (S)
Pressure to succeed, be competitive (O)	Less pressure to succeed (P)
Alimony and child support (O)	Alimony and insurance benefits (S)
Liable to draft (O)	Free from draft (S)
Must take initiative, make decisions (O)	Protected (S)
Limit on acceptable careers (P)	
Expected to be mechanical, fix things (O)	
	More leisure (S)
	Placed on pedestal; object of courtesy (S)

*Letters enclosed in parentheses refer to a fourfold categorization of roles: P = Proscription, O = Obligation, R = Right, S = Structural Benefit

(in Chafetz, 1974: 57)

More and more, feminists are beginning to realize that, servile as women's traditional world might be, the men's world alone is too deficient. The men's world, which women are being reluctantly invited to enter, is not actually that inviting. It involves too much stress, due to competition, striving for status, constant fear of obsolescence and a need for "recycling", job insecurities, petty political quarrels, and cutthroat violence. The material rewards, prestige, and sense of power that men do attain at times are dubious benefits when one considers the cost involved.

Table 3

Disadvantages of Same Sex Role
and
Advantages of Opposite One as Perceived by Females*

Female Disadvantages	Male Advantages
Job opportunities limited; discrimination; poor pay (P)	Job opportunities greater (S)
Legal and financial discrimination (P)	Financial and legal opportunity (S)
Educational opportunities limited; judged mentally inferior; opinion devalued; intellectual life stifled (P)	Better educational and training opportunities; opinions valued (S)
Single status stigmatized; stigma for divorce and unwed pregnancy (P)	Bachelorhood glamorized (R)
Socially and sexually restricted; double standard (P)	More freedom sexually and socially (R)
Must bear and rear children; no abortions (in many places); responsible for birth control (O)	No babies (S)
Must maintain good outward appearance; dress, make-up (O)	Less fashion demand and emphasis on appearance (R)
Domestic work (O)	No domestic work (R)
Must be patient; give in; subordinate self; be unaggressive; wait to be asked out on dates (P)	Can be aggressive, dating and otherwise (O)
Inhibited motor control; not allowed to be athletic (P)	More escapism allowed (R)

*Letters enclosed in parentheses refer to a fourfold categorization of roles: P = Proscription, O = Obligation, R = Right, S = Structural Benefit

(in Chafetz, 1974: 58)

Rorvik (1975) has portrayed the situation of the male in our culture as anything but attractive. In his view, the "male (...) appears to be more culturally imperiled by the gender stereotypes" than the female. In particular the stereotype which dictates that he be strong and unemotional, that he never cry or be affectionate with other men but that all his

relationships with them be competitive and slightly aggressive, that in his marriage he assume the major financial responsibilities and the position of authority, is very damaging. Far too often, the male sacrifices his human potentiality to save his masculine identity, and "suffers the fears and stresses of life in manly reserve and go(es) to his grave ten to 20 years earlier than his more expressive, less pressure-bound wife" (p. 55).

Jourard (1971) has also outlined similar "lethal aspects of the male role" and has explored the "implications of these aspects of manliness for health and longevity" (p. 28). He discovered that men are "lower disclosers of self than women, are less insightful and empathic, less competent at loving, and more subject to dispiritation than women" (p. 28), much more readily falling victim to heart failure and infectious diseases.

The costs of sex role conformity are very high for both sexes. Depending on one's viewpoint they may be personal, economic, medical, psychological, educational, legal, political, or a composite of all of these. The greatest tragedy lies in the fact that the costs are unrecognized by the great majority, and the insiduous damage they wreak in an individual usually comes to light in the disguised form of mental illness, broken marriages, crime, alcoholism, drug addiction, "successful" yet unhappy and unfulfilled adults living robot-like existences devoid of the will or desire for, or knowledge of, anything better.

E. "Gay" Liberation

During the 1950's and the 1960's, many oppressed groups began to rise up, demanding their rights and proclaiming their human dignity. The emerging Women's Liberation Movement, like the Black struggle, the

anti-war demonstrations and freedom movements inspired thousands of people all over North America and helped them discover their right to question the legitimacy of institutions and social norms that dominated and controlled their lives. Young homosexuals were inspired to explore, expose, and fight back against their own oppression.

The first major Gay Liberation demonstration took place in New York City in 1970, and since that time, gay people of both sexes have become very bold in asserting themselves and demanding full civil rights. According to Dawson (1975), "the central core of the gay liberation movement is the fight for full dignity for all human beings without regard to their sexual orientation" (p. 10 - italics in original).

For centuries, along with most heterosexuals, the vast majority of homosexuals accepted the religious, medical, and legal mythology that condemned as sinful, sick, or criminal, anyone who deviated from the traditional norms of heterosexual behavior. In very many countries, homosexuals have lived lives of shame, humiliation, and self-hatred, hiding their sexuality and life styles through fear of encountering condemnation and various forms of discrimination.

But a few examples of discrimination suffered by gay people are the following:

(1) their sexuality is specifically against the law in many localities;
(2) many jobs are closed to them;
(3) most landlords won't take them as tenants, or, if they do, will charge extra;
(4) they are often subject to blackmail;
(5) in institutions and the military, they face segregation, brutality, and humiliation;
(6) they often suffer from self-contempt and fear.

The Gay Liberation Movement has made a few gains. Laws and legal sanctions have been repealed in many areas. There have been a number of

successful legal challenges to specific cases of job discrimination. An important symbolic victory was won in 1973, when the American Psychiatric Association decided that homosexuality could no longer be considered a psychiatric disorder. However, in spite of this official change of policy, the question remains controversial. Most children are still taught that the only healthy, normal human beings are the men and women who marry members of the opposite sex and raise children who do the same. Many children still grow up learning to think of sex as somewhat shameful and of homosexuality as even sicker. The issue of sexual deviance and its treatment will be considered in another section of this paper.

F. Human Liberation or Androgyny

For many people today, liberation or equality of the sexes seems to be synonymous with sharing a man's world, allowing women to "get their piece of the pie". Because of the current male bias of the social values, equal participation in all aspects of society as we know it, in actuality means an acceptance and promotion of the superiority of "masculine" qualities.

This is where the battle has to be fought, according to Henshel (1973): "on grounds of values and equality, not similarity. Feminine characteristics, whether innate or cultural, should be as highly valued as masculine ones (p. 151 - italics in original). Henshel poses a very thought-provoking question: "Why not focus on the further development and revalorization of characteristics that have been traditionally considered feminine?" (p. 147). Instead of applying "masculine" criteria in the evaluation of all performance, whether that of males or females, it would be wise for society to realize that, although there are some

"masculine" traits that would benefit women, there are also many "feminine" traits which, if shared by males, would help create a better world for both sexes. All should beware, in efforts at liberation, of promoting a new type of servility - "making it in a man's world" - regardless of whether one is male or female.

The changes being brought about by feminism will directly benefit men as well as women. Safilios-Rothschild (1971) has summarized the overall goals of liberation movements as follows:

> Liberation (...) means freedom from stereotypic sex-linked values and beliefs restricting the range of socially acceptable options for men and women because some options are considered to be inappropriate for one or the other sex. Liberated men and women living in a liberated society have equal access to the range of options and may make any choice according to their particular inclinations, talents, wishes, and idiosyncratic preferences (...) A major goal (...) of emancipation was to give women as many privileges as men, while the major goal of liberation is the elimination of social, cultural, and psychological barriers in the way of both men and women's realization and, therefore, benefit both men and women (p. 271 - italics in original).

A necessary outcome of the ideals of the New Feminists is androgyny, a notion which may sound unbearably dull or terribly blasphemous, depending on one's viewpoint. Bird (1969) writes about this androgynous world toward which our society appears to be headed, a world "in which the most important thing about a person will no longer be his or her sex" (p. ix). She predicts that "in this brave new world babies would not be committed to a specific adult role because they happened to be born female", but that "sex would be a personal characteristic of only slightly more consequence than the color of one's hair, eyes - or skin" (p. xii).

In an androgynous society, as Henshel (1973) suggests, the male-female dichotomy could be eliminated, and attention could be focused on individual capabilities and potentialities. It should be kept in mind that existing sex differences represent averages and not totalities. Such an approach would assess the potential of each individual and suggest appropriate educational, economic, and career goals on this basis, thus eliminating sexual discrimination or favoritism towards one sex or the other.

Rossi (1964), in her "immodest proposal" of equality between the sexes has described a hypothetical case of a woman who is reared and lives out her life in an androgynous society. Such a person will be reared, as are her brothers, with a "combination of loving warmth, firm discipline, household responsibility and encouragement of independence and self-reliance" (p. 138). There will be no pampering or indulging which would subtly teach her to achieve her ends through tears and coquetry. Domestic skills will be viewed as useful tools to acquire, with certain intrinsic pleasures attached, and will be taught to both boys and girls. Both sexes will learn to tend children, press, sew, and cook, as well as skills in mechanical tasks and carpentry, etc. During their school years, both sister and brother will be encouraged to assume responsibility for their own decisions, and will be given the opportunity to experiment with numerous possible fields of study. Their eventual choice will be the area which best suits their interests and abilities with no concern about what is considered appropriate or prestigeful work for a man or a woman. Marriage and parenthood will be viewed as only two of the many strands which may constitute their lives. The girl will be as true to her "growing sense of self" as are her brothers and male friends, and

she will not feel pressured to belittle her accomplishments or lower her aspirations. "Her intellectual aggressiveness as well as her brother's tender sentiments will be welcomed and accepted as human characteristics, without the self-questioning doubt of latent homosexuality" (p. 138). The sexual act will not be viewed as "an exclusive basis for an ultimate commitment to another person, and not as a test of her competence as a female or her partner's competence as a male" (p. 139), but rather as a good and wonderful experience of freedom and pleasure in her own body. She will be encouraged to establish her own independent world "in which she moves and works, loves and thinks, as a maturing young person" (p. 139). This new woman will have a "many-faceted conception of her self and its worth" (p. 139).

Sex Roles and Sex Differences

A. The Nature of Sex Roles

At this point it is necessary to make a crucial distinction between gender role and sex role. According to Jeffery (1975), "a gender role can be conceptualized as being made up of particular behaviors and/or capabilities associated with one sex or the other" (p. 23). The most obvious examples of gender roles are those behaviors associated with the reproductive function: insemination, child-bearing, and suckling. The line of demarcation between gender role and sex role at times appears to be somewhat arbitrary. The current liberation movements are attempting to subtract from the sex role all but the most basic gender-role differences, thereby increasing equality between the sexes.

Almost all human beings are born with a clearly identifiable gender. They are either male or female. Gender or sex is a biological fact; it is

also an ascribed status that is associated with differences in behavior from childhood until death. According to Dornbusch (1966), "only sex, kinship, and skin color can be ascribed for an infant with relative certainty that he will remain in these categories for the rest of his life" (p. 208). Ascription by sex is based upon the primary sex characteristics of the neonate. In all known human populations, males and females differ in primary sex characteristics. They differ in many secondary sex characteristics as well, but these can be affected by cultural and environmental factors, and are, therefore, not absolute.

Sex role is of a different order than gender. Here the relevant terms are "masculine" and "feminine". Henshel (1973) defines sex roles as "the rules that a human being of a given sex has to follow in order to fulfill the social prescriptions of his or her sex" (p. ix). A sex role, therefore, is a predominantly learned set of appropriate masculine or feminine behaviors as determined by the culture and society in which one lives.

Margaret Mead, an anthropologist, is personally responsible for a prodigious field of writing and research, from 1925 to the present, which explores in various ways the question of the plasticity of human nature to cultural patterning in such areas as child development and differentiation of sex roles. Mead has been criticized by feminists for her glorification of the female reproductive function and her Freudian orientation. However, it is recognized that she went a step beyond Freud in her insistence that women are unique human beings, not men with something missing. Mead made a unique contribution to the theory of cultural determinism of sex differences and sex roles in her study of three primitive societies: the Arapesh, the Mundugumor, and the Tchambuli.

According to Mead (1935), among the Arapesh, both men and women are "feminine" and "maternal" in personality and passively sexual. Both sexes are trained to be cooperative, unaggressive, and responsive to the needs and demands of others. Among the Mundugumor, both males and females are violent, aggressive, positively sexed, "masculine". Among the Tchambuli, the female is the dominant, impersonal, managing partner, and the male is the less responsible and emotionally dependent person. Mead writes:

> If those temperamental attitudes which we have traditionally regarded as feminine - such as passivity, responsiveness, and a willingness to cherish children - can so easily be set up as the masculine pattern in one tribe, and in another be outlawed for the majority of women as well as for the majority of men, we no longer have any basis for regarding such aspects of behavior as sex-linked (....) The material suggests that we may say that many, if not all, of the personality traits which we have called masculine or feminine are as lightly linked to sex, as are the clothing, the manners, and the form of headdress that a society at a given period assigns to either sex (pp. 279-280).

Dornbusch (1966) offers two general definitions of the term "role". The first definition is as follows: "a particular position in the social system that has a set of normative expectations associated with it" (p. 209). This conception of role is linked to an "anticipatory socialization model" (p. 208). If individuals were not distinguished by sex or gender, each newborn child would have to be socialized to take part in every type of activity. It is much more advantageous for a society to classify neonates into categories with the expectation that members of these categories will engage in a specific set of activities. Because of the great differences in these probable future activities, sharp delineations in anticipatory training are possible. What is emphasized in one category is ignored in the other. It is easy to overemphasize this basis

for sex differences. Socialization is a very complex process. It is not always obvious how different socialization practices produce sex-typed behavior. Some sex differences, such as the greater conformity of females, are at least partly the result of direct socialization. Other sex differences, such as field dependency, are not the result of direct teaching but the product of the interaction of many mediating processes. Furthermore, some major sex differences, such as those found in spatial ability, are so subtle that most members of society are unaware of their existence. It is difficult to conceptualize a society providing anticipatory socialization to mold individuals into a sex-typed pattern that is not known to exist. Because sex-linked patterns of behavior may not be directly based on socialization practices, the use of anticipatory socialization as an explanatory notion is inadequate.

A second definition describes role as "the personal creation of the individual who occupies it, a product of both personal and social forces" (Dornbusch, 1966: 209). According to this extreme psychological position, (extreme, that is, for the conservative majority), "the way the person behaves <u>is</u> the role" (p. 209). Role as an explanatory concept is no longer relevant. Although expectations may develop, there is no normative element, and deviations merely change the characteristics of the role. Androgyny is based on this new conception of role.

Most social psychologists take a middle path. "Roles are socially defined, but they differ on the degree of consensus with respect to normative expectations" (Dornbusch, 1966: 209). Normative behavior is not caused by the presence of norms per se. Rather "shared norms influence the socialization practices, thereby linking role behavior with normative expectations" (Dornbusch, 1966: 209).

In summary, sex role is a general role that interacts with other roles such as age, social class, and occupation. Such interaction effects would make anticipatory socialization very difficult, if not impossible. In our society there is a relatively low consensus on sex roles and hence much uncertainty about which adult roles a child will play. Early socialization can only lay a foundation compatible with the most probable adult experiences; it is not possible to anticipate all contingencies.

It is undeniable that sex differences do exist, on psychological and aptitudinal as well as physical levels. Whether they are the cause or the result of sex role socialization is a much disputed question.

B. An Overview of Sex Differences

Over many centuries, in our culture, and perhaps in most others, the prevailing view has been that females are inherently inferior to males in their capacities for virtually every type of performance. The subject of sex differences has always been of interest. Tyler (1965) points out that before 1900 many books and treatises had already been written concerning sex differences, but the vast majority contained theoretical discussions and general impressions. In 1910, a "review of the recent literature on the psychology of sex" by Woolley (in Tyler, 1965: 555) contained 25 references, only 10 of them directly psychological. In 1935, Miles covered 327 references.

One of the reasons for the rapid increase in the number of psychological studies in this area was the early feminist movement. From 1900 on, the findings of psychologists gave more and more support to the arguments of feminists. Much of the earlier work was motivated by the desire to

demonstrate that females are not inherently inferior to males. This was the era of head measurements and brain weights. At this time two conclusions stood out: "that differences between the sexes in mental abilities are small and that it is possible to account for such differences on a sociological rather than a biological basis" (Tyler, 1965: 239-240). Differences between the sexes were minimized and commonalities were stressed. However, many studies showing differences in patterns of abilities gradually accumulated.

Around 1930, the research emphasis shifted. Attempts to measure motivational and personality traits multiplied. The studies no longer aimed at proving the similarity of males and females; their purpose was to achieve a better understanding of the perceived differences between the sexes. Interests, values, attitudes, and emotions came under scrutiny. Psychoanalytic theory influenced many of the studies either directly or indirectly; it was usually postulated that most existing differences were determined by biological rather than social causes. Thus we read such statements as the following by Ellis (1928):

> In one artistic field, singing, women would appear to be conspicuously ahead of men. This may be associated with a relatively greater development of the vocal cords in women and also probably with their greater emotional development (p. 258).

> In philosophy there is no case of a woman who has attained first rank (....) Few women have invaded the field. This would agree with the view of those who hold that women are little interested in generalities. Also the greater emotionality of women would tend to prevent the attainment of the state of philosophical calmness necessary for the most successful speculation (pp. 258-259).

More liberal writers cautiously suggested that observed differences <u>might</u> be the result of learning and social background rather than inherent in

the sex of the individual. Gailliland and Clark (1939), after describing four studies which consistently indicated the tendency of men to talk somewhat more of things and of women to talk somewhat more of persons, made the following statement: "it may very well be true that these small consistent differences in subjects of conversation are only incidental to the fact of sex and not at all inseparably bound to sex itself" (p. 133). Noting that the names of eminent women in history are much less numerous than those of eminent men, they questioned: "Is this due to a lack of superior ability among women or to a lack of opportunity to achieve recognition? It is possible that both of these causes have been operative" (p. 134). Personality tests with masculinity-femininity scales such as that of Terman and Miles (1936) originated around this time.

During the 1950's the emphasis changed again. Researchers became interested in developmental processes which give rise to characteristically male and female patterns of behavior. Identification became an important concept; a sociological emphasis on sex roles emerged. This was the heyday of Benjamin Spock (1957). The way in which separate character and personality traits (e.g. aggression) are linked together differently in the sexes became more and more apparent. In the 1960's many developmental studies were carried out in an attempt to clarify these patterns of relationship and a vast accumulation of resulting facts and figures became available.

With the advent of the new feminist movement, in the late 1960's and in the 1970's, emphasis is once again focused on not only minimizing but even negating all existing sex differences except the very basic ones in reproductive function. Culture and society are held responsible for maintaining and promoting traditional stereotypes of "masculine" and "feminine" behavior.

Anastasi (1958), Tyler (1965), Maccoby (1966, 1974), and Bardwick (1971) have published major reviews of the literature on sex differences, as well as other individual differences. These reviews are basically descriptive in nature, pointing out the many established physiological and psychological sex differences. An analysis of these reviews reveals sex differences in a great many areas of human functioning: abstract reasoning, achievement, adjustment and maladjustment, attitudes, aggression, cognitive styles, intelligence, interests, mechanical aptitudes, personality, social sensitivity, spatial relations abilities, variability, verbal fluency, language skills. Various primary and secondary physiological sex differences also exist: sex differences have been found in growth rate and size, in hormonal and neurological factors. Henshel (1973) has analysed sexual differences from the physical, psychological, and aptitudinal frameworks. The following discussion is based primarily on her analysis.

C. Physical Differences

According to Henshel (1973), "physical differences can be subdivided into sexual characteristics, bio-chemistry (hormones), body size, biological vulnerability, and sensory motor differences" (p. 2). Henshel affirms that "sexual characteristics are at the root of sex roles as they are the most visible and readily observable differences" (p. 2). Thus, many traits such as helplessness and dependence are imputed to and imposed on females simply because of their more fragile appearance. Because physical characteristics evoke certain connotations, many "culturally induced psychological differences between the sexes" (p. 2) are believed to be innate. Sexual characteristics may be either primary or secondary. "Primary sexual characteristics are those related to reproduction: women

are built for child bearing and suckling whereas men are equipped for seminal discharge" (p. 2). Secondary sexual characteristics involve growth of body hair, breast development, voice pitch, etc.

Bio-chemistry (hormonal components such as estrogen, androgen, progesterone, and testosterone) are closely related to sexual characteristics. It is believed by many biologically oriented researchers that at least some psychological traits have an innate, bio-chemical basis. In other words, hormonal components exert a "differential pressure on the behavior (as opposed to potential) of the sexes" (Henshel, 1973: 5). Hamburg and Lunde (1966) have outlined some of the possibilities for research in this area:

> (1) neuroendocrine processes governing the timing of puberty, and psychological reactions to variations in timing;
> (2) studies of sex hormones by bio-chemical methods throughout childhood and adolescence in relation to behavior variables;
> (3) the study of endocrine abnormalities in children, particularly those involving early exposure of the female brain to high quantities of male sex hormone;
> (4) sex differences in behavior after puberty, particularly those relating to the function of female sex hormones in the menstrual cycle and pregnancy;
> (5) developmental studies on nonhuman primates, especially those analyzing interactions of male sex hormone and social environment in the formation of aggressive and mating behavior;
> (6) sex differences in behavior of human infants, with an examination of developmental as well as contemporary behavior-hormone correlations;
> (7) sex differences in susceptibility to brain diseases and to severe behavior disorders (p. 21).

As yet there is little conclusive evidence on the nature and extent of the effects of sex hormones on the development of human behavior. Many ethical considerations, and research biases and invalidities, forestall the completion of such studies.

Money and Ehrhardt (1972) have attempted to surpass the outdated traditional dichotomy of heredity and environment. They have integrated experimental and clinical data and concepts from the sciences of genetics, embryology, neuroendocrinology, endocrinology, neurosurgery, social, medical, and clinical psychology, and social anthropology, and they promote the "principle of interactionism between prenatal and postnatal determinants of psychosexual differentiation, expecially in connection with the principle of the critical developmental period" (p. ix).

Body size is another constant and observable physical difference. In most societies there is evidence that males are generally taller and heavier than females. This difference is apparent even at birth. Muscle mass and bone size are also different in the male and female neonates. This greater physical and muscular bulk normally yields greater strength. Sex differences in height, weight, musculature, and strength existent at birth are further developed and accentuated as the child matures; thus, according to Henshel (1973), "cultural factors reinforce the initial state of affairs" (p. 8).

Although males are stronger and bulkier than females, they are biologically more vulnerable. Statistics show that males "are more often the victims of miscarriages, still-births, infant deaths, and neonatal abnormalities" (Henshel, 1973: 11). Males show a greater proportion of mental retardation and other defects such as deafness, color blindness, stuttering, reading problems, learning disabilities, etc. Their life expectancy is lower and they are more subject to major diseases such as heart problems, cirrhosis of the liver, pneumonia, and emphysema. They also succomb more often to fatal accidents. There is much question, however, as to whether this greater vulnerability is culturally determined and the result of societal stress factors in the life of the male.

In the sensory motor area, numerous studies show that, on the average, "boys surpass girls not only in muscular strength, but also in speed and coordination of gross bodily movements" (Anastasi, 1958: 470). On the other hand, girls generally excel in manual dexterity and in speed and control of fine movements. Infant females have been reported as being more sensitive to pain and tactile stimuli than infant males. Once again, the subtle influence of culture remains to be determined.

D. Psychological Differences

Psychological differences between the sexes are extremely numerous. It has proved to be very difficult, if not impossible, to determine which, if any, of these differences are actually inherent in the sexes.

A vast amount of research has been done in the area of aggression. Studies done with animals suggest that aggressiveness is biologically determined. Aggression appears to be associated positively with the male sex hormone, androgen. However, it cannot be concluded, on the basis of animal studies, that human males are innately more aggressive, and ethical considerations do not permit such experimentation on humans. Furthermore, the concept of aggressiveness has suffered from a confused terminology. Aggression can take different forms. According to Bardwick (1971):

> Aggression in women is often more subtle, less easily recognized for what it is than the obvious, overt, immediate aggression of the male. Women show anger in words and in interpersonal manipulations of other people (....) The assumption that the male model of aggression is the only form leads to the perception of low levels of aggression in girls (pp. 13, 127).

The point is that males exhibit higher levels of physical aggressiveness while the display of aggression by females is more covert and subtle.

Aggressiveness could possibly be linked to size and strength, to hormones and hormonal levels; it could also be a conditioned cultural component.

Closely related to aggression is the trait of competition. Males in our culture are described as being highly competitive as well as highly aggressive. Since competitiveness in women is frowned upon in our society, it is not surprising that females have been found less competitive than males. However, there are definitely areas where females compete: beauty contests, keeping up with the Joneses, cook and bake contests, clothing bazarres, demands for equal opportunity with men, are but a few instances of competitiveness in women.

Independence is another psychological trait that has received a great deal of attention. Researchers have found that boys are more independent than girls. Because this trait is usually observed only after the first years of life and becomes progressively more pronounced, it is generally accepted by psychologists that a cultural basis exists for the degree of independence an individual exercises. The suggestion has been made, however, that because males are stronger and more aggressive, there could be a biological predisposition for females to be more dependent on the male.

Yet another psychological characteristic is passivity. Immediately, upon hearing the term, one is bogged down by terminology. "Passive versus what? Active? Aggressive? Dependent? Competitive? Does it mean receptiveness?" (Henshel, 1973: 18). It is often assumed that because females tend to avoid physical contention and vigorous activity that they are passive. Studies as to whether females are indeed innately more passive than males are highly inconclusive.

The dichotomy between female "expressiveness" and male "instrumentalism", first introduced by Parsons (1955), is a frequent topic of discussion. It is said that the female has an " 'expressive' orientation (emphasis on feeling and personal relationships) in her own makeup" (Tyler, 1965: 271). The male has, on the other hand, a "characteristically masculine 'instrumental' orientation (the disciplined pursuit of particular goals)" (Tyler, 1965: 271). It is almost a universal finding that females are more dependent upon people than males are. This social sensitivity, or responsiveness to people, has been offered as a possible explanation for the preponderance of females in such areas as teaching, nursing, and social services. It has been suggested that female expressiveness is quite possibly a product of, as well as a basis for feminine social orientation. Female expressiveness is often revealed in a less positive way. Henshel (1973) contends that females are "usually believed to be more prone to inter-personal jealousy, cattiness, pettiness, and gossiping (a form of aggressiveness) than are males" (p. 19). She ascribes this difference in part to the fact that

> girls need people to prove themselves; boys need action as well as people. Females prove themselves by exhibiting their ascribed and passive privileges such as beauty. Males are socialized to demonstrate achieved and active qualities (....) It is true that men compete among themselves, but they do so in terms of achievement, whereas women do it in terms of ascription (marriage) and personal needs (p. 19).

A comprehensive analysis of masculinity-femininity personality traits by Bennett and Cohen (1959) suggests five general principles that summarize the nature of characteristic differences between the sexes. Tyler (1965) lists these principles as follows:

> (1) Masculine thinking is a modification downward in intensity of feminine thinking.

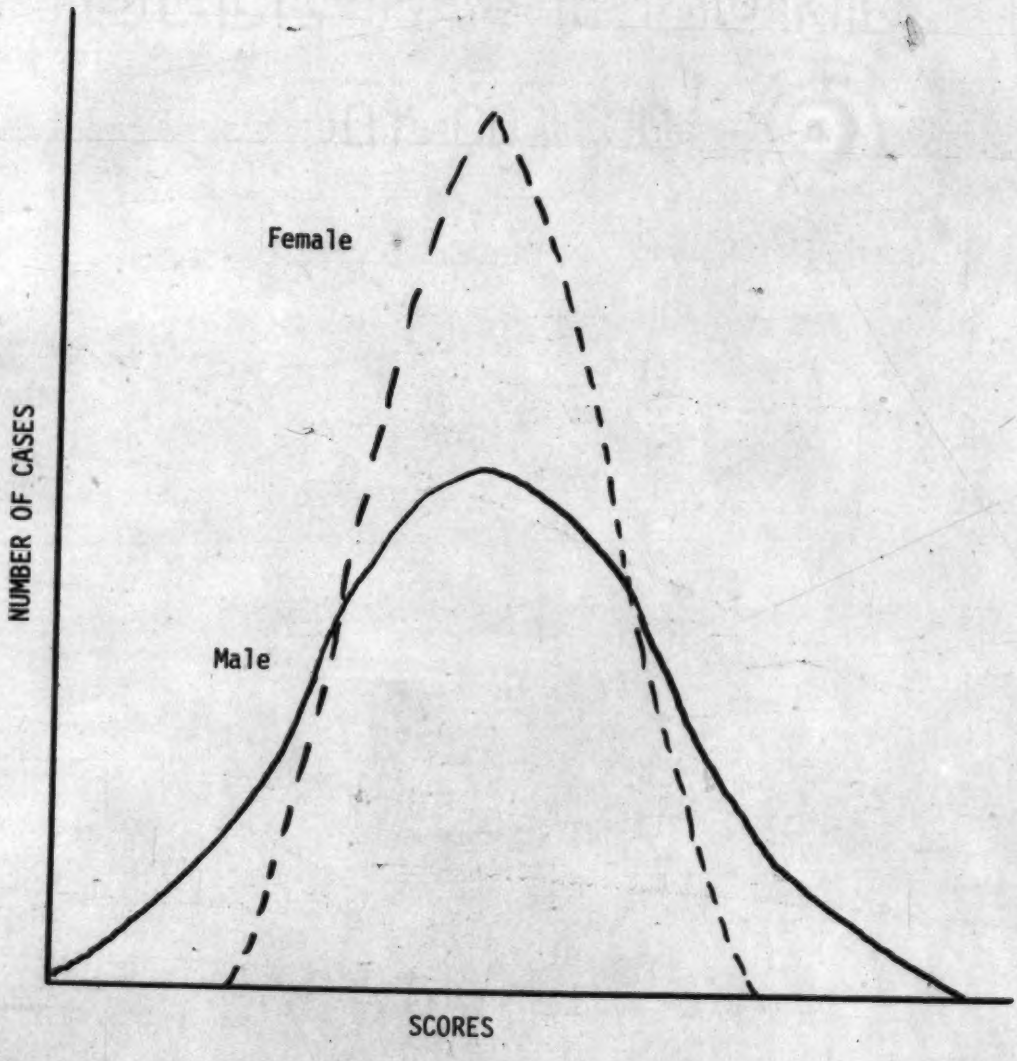
(2) Masculine thinking is oriented more in terms of the self while feminine thinking is oriented more in terms of the environment.
(3) Masculine thinking anticipates rewards and punishments determined more as a result of the adequacy or inadequacy of the self, while feminine thinking anticipates rewards and punishments determined more as a result of friendship or hostility of the environment.
(4) Masculine thinking is associated more with desire for personal achievement; feminine thinking is associated more with desire for social love and friendship.
(5) Masculine thinking finds value more in malevolent and hostile actions against a competitive society, while feminine thinking finds value more in freedom from restraint in a friendly and pleasant environment (pp. 259-260).

E. Aptitudinal Differences

According to Tyler (1965), "one of the most plausible hypotheses that has been used to explain the difference in achievement between the sexes makes use of the concept of variability" (p. 248). Beginning with Havelock Ellis (1904), a number of writers on sex differences have proposed that the principal way in which the sexes differ has nothing to do with averages, but is a matter of range; in other words, although the average ability of men and women may be equal, the range of intelligence is wider among men. This hypothesis enjoyed wide popularity at the beginning of this century, nor is it completely absent from more contemporary writings (Anastasi, 1958; Tyler, 1965). Such a possible sex difference in variability is illustrated in Figure 1 (see p. 44).

Females are said to be clustered more compactly around the middle of the distribution with far fewer extreme deviates than males. Evidence offered in support of greater male intellectual variability comes from two sources. First, the statistics on eminence are cited as proof of the greater frequency of superior intellect in the male sex as well as of the

Figure 1



Hypothetical Distribution of Intelligence for the Two Sexes According to the Theory of Greater Male Variability (in Tyler, 1965: 249).

presence of more extreme positive deviants. Surveys of institutions for the retarded in many countries revealed a consistent excess of male inmates, and these data were presented to establish the wider range of male intelligence at the lower end of the distribution. The greater number of gifted boys located in gifted child studies and the excess of males registered in special classes for retarded and learning disabled children have also been cited in support of the theory of greater male variability. Today it is recognized that the excess of males in institutions for the retarded is largely the result of "differential sex selection in institutional admissions" (Anastasi, 1958: 456). A similar differential selection has been found operant in admission of children to special classes. The evidence for greater male variability based upon the upper end of the distribution is also suspect. According to Anastasi (1958), the "excess of males who have achieved eminence may reflect inequalities of opportunities for the attainment of eminence, as well as other cultural factors" (p. 457). These factors will be considered later on in this discussion. It should be noted that, originally, according to Anastasi (1958), the "doctrine of greater male variability was regarded by its proponents as a fundamental biological law and was believed to hold for all traits, both psychological and physical" (p. 45).

Maccoby (1966) discusses aptitudinal differences between the sexes in the following areas: general intelligence, verbal ability, number ability, spatial ability, analytic ability, creativity, and achievement. The following discussion will follow these categories also.

Most widely used tests of general intelligence have been standardized to minimize or even eliminate sex differences. Some tests, however, tend to have more items of a kind on which one sex normally excells;

if such an imbalance exists, one sex may test higher than the other. Research indicates that there is a tendency for girls to test somewhat higher on general intelligence tests during the preschool years, while boys tend to test higher during high school. During late adolescence and adulthood, "women decline somewhat more or gain somewhat less than males" (Maccoby, 1966: 26).

As was previously mentioned, girls display superior verbal fluency at a very early age. According to Maccoby (1966):

> Through the preschool years and in the early school years, girls exceed boys in most aspects of verbal performance. They say their first word sooner, articulate more clearly and at an earlier age, use longer sentences, and are more fluent (....) Throughout the school years, girls do better on tests of grammar, spelling, and word fluency (p.26).

Girls also learn to count at an earlier age than boys. There are no consistent differences in skill at arithmetical computation through the school years, but boys forge ahead and gradually come to excel in the area of arithmetic reasoning. This excellence is generally maintained among male university students and adults.

When very young, boys and girls show no differences in spatial tasks (e.g. form boards, block designs), but boys do better consistently in such tasks by the early school years. This difference continues throughout school and adulthood.

Analytic ability refers to the "ability to respond to one aspect of a stimulus situation without being greatly influenced by the background or field in which it is presented" (Maccoby, 1966: 27). It is equivalent to the term "field independence". School age boys tend to score consistently higher on measures of this trait, although no differences have been found in pre-schoolers. Analytic ability is also related to "modes

of grouping diverse arrays of objects or pictures" (Maccoby, 1966: 27). People who use analytic groupings - i.e. "put objects together on the basis of some selected element they have in common" (Maccoby, 1966: 27) - also tend to be more field independent. School age boys more commonly use analytic groupings than girls.

Creativity can be defined as "the ability to break set or restructure a problem" (Maccoby, 1966: 27). Breaking set is involved in tasks used to measure analytic ability. When this aspect of creativity is emphasized, males tend to be superior to females. Females do better in the area of divergent thinking than in the area of breaking set, and at times even surpass males. However, findings are inconsistent.

As far as school achievement is concerned, girls get better grades than boys throughout the school years, even in those subjects in which boys score higher on standardized achievement tests. In addition, however, men achieve substantially more than women in almost every aspect of intellectual activity where measurement is possible. Longitudinal studies (e.g. Terman, 1925) reveal that gifted males tend to realize their occupational and creative potential much more than females do.

Maccoby's (1966) summary of the research in the area of intellectual and aptitudinal differences between the sexes shows that:

> (1) there are a number of aspects of intellectual performance on which the sexes differ consistently in the average scores obtained, and that
> (2) whether or not there is a difference in average performance on a given task, there are some substantial sex differences in the intercorrelations between intellectual performance and other characteristics of the individual or his environment (p. 39).

Theories of Sex Differences

Various theories are given for the development of sex differences. According to Jeffery (1975), these "theories can all be located along a nature/nurture/interaction continuum" (p. 30). From among the multitude of theories representing each of these positions, the writer has chosen to select three that may most adequately reflect the theories on the nature/nurture/interaction continuum. These are the psychoanalytic, the social learning, and the cognitive-developmental approaches to psychosexual identification.

A. The Psychoanalytic Position

The psychoanalytic position is essentially the Freudian theory of sexual stages linked to physical maturation. It should be noted here that although Freud is responsible for the original description of the identification process, his analyses of the presumed conditions of its development in infancy were incomplete and his descriptions were not expressed in terms that were conducive to empirical investigation. Several neo-Freudians or recent Freudians (Horney, 1932; Kardiner, 1945; Erikson, 1965; Sullivan, 1953; Parsons, 1958; Bettelheim, 1962; Bronfrenbrenner, 1960) have attempted to reformulate Freud's theory in more precise terms in order to facilitate behavioral research on sex-typing. The majority of these efforts have dwelt on the basic principles of learning, making use of what is known concerning the effects of reward and punishment and the mechanism of secondary reinforcement. Probably for this reason, they have dealt almost entirely with primary, or anaclitic, identification. The concept of identification with the aggressor (defensive identification) was originally described in psychodynamic rather than developmental terms.

According to Freudian theory, the sexual instinct begins diffusely from the "excitability of many erotogenic zones of the body" (Kessler, 1966: 5). The oral, anal, and phallic stages of psychosexual development, derived from those parts of the body which are, at the time, the primary sources of pleasure, are familiar aspects of psychoanalytic theory. The Oedipus complex, which is of more direct concern to the present study, is another very familiar aspect of Freudian theory.

For a boy, the central features of the Oedipus complex are his feelings of hostility and rivalry toward his father and the focus of his love and affection on the mother, i.e. anaclitic identification. At the same time, there occurs the critical feature of "castration anxiety". The boy fears that he will be hurt and castrated by his father because of his sexual wishes regarding his mother. Because this rivalry with the father is too anxiety-provoking to be tolerated, the child relinquishes his identification with the mother and identifies with his male parent. This phenomenon is called "identification with the aggressor". By accepting the father and by becoming like him, the boy is able to adjust to the continual presence of this feared and powerful person. According to Freudian theory, this process occurs normally in the boy's development. One of the consequences of the identification with the father is that it helps instill masculine interests and values in the boy.

Freud was never as explicit about the course of development in the female child, except to hypothesize that the process was analagous. He realized that his theory was not as satisfactory for girls as for boys, but never clearly resolved the issue. Female psychosexual development, he theorized, involves sexual wishes toward the father, rivalry with the mother, and is ordinarily resolved by repression of the sexual desires,

identification with the mother, and acceptance of her femininity. There is also a castration complex in girls, except that they believe castration has already occurred. Thus part of the problem of females, according to Freud, is "penis envy", resulting in a devaluation of femininity since the all-important penis is lacking. The problem is eventually resolved when the girl realizes that women can have babies and that men cannot. The future probability of motherhood is a compensation for her lack of a penis.

The female sexual function has been exalted and glorified by a number of theorists of Freudian orientation (Horney, 1932; Mead, 1935; Montagu, 1954; Bettelheim, 1962). These writers affirm that "masculine castration-anxiety is very largely the ego's response to the wish to be a woman" (Horney, 1932: 77). Mead, Horney, Montagu, and Bettelheim have been loudly denounced by the New Feminists because they have given the one biological difference that appears to exist in all cultures - the difference in reproductive role - eminent importance in the determination of woman's personality and her worth as a human being.

According to Marmor (1968), "there is probably no area in Freud's writings more fraught with theoretical and clinical contradictions than his pronouncements concerning feminine psychophysiology" (p. 68). The classical psychoanalytic position on women as outlined by Freud has been summarized by Marmor (1968) as follows:

> (1) Anatomy is fate. The basic nature of woman is determined by her anatomy; most importantly by her discovery that she does not possess a penis.
> (2) Penis envy. All female children naturally envy males for having penises, and the desire for a penis is a universal fact of normal feminine psychology, only partially compensated for by giving birth to a male child (....)

(3) Masochism and passivity. These are outgrowths of normal feminine development and are natural and essential components of healthy femininity.
(4) Faulty superego development. Due to the fact that the feminine castration-complex (precipitated by the little girl's discovery that she has no penis) pushes the little girl away from her mother into an Oedipal attachment for her father, the little girl has greater difficulty than the boy in resolving the Oedipal complex. Consequently, she tends to develop a defective superego (because the latter presumably comes into being only as the 'heir' of the repressed Oedipal complex). The result in women, according to Freud, is an inadequate sense of justice, a predisposition to envy, weaker social interests, and a lesser capacity for sublimation (p. 70).

Freud, in spite of his extreme male chauvinism, must be given credit for having emphasized the fact that sex develops from the beginning of life, just like all other human functions. Before Freud, the common belief was that "sex" came to children suddenly at the age of puberty.

A new masculinist version of the Freudian doctrine has been put forth by Erikson (1965) and Bettelheim (1962). They suggest that it is the female "inner space", rather than the absence of the penis, that is the organizing principle of feminine personality.

B. The Social Learning Position

Social learning theorists (Lynn, 1959, 1964, 1966; Kagan, 1964; Mischel, 1966) agree with the psychoanalytic theorists that identification with the same-sex parent is the prerequisite for, or cause of, appropriate sex-typed attitudes. Although social learning theorists prefer to use the term "imitation" in lieu of "identification", both terms, according to Mischel (1966), refer to "the tendency for a person to reproduce the actions, attitudes, and emotional responses exhibited by real-life or symbolic models" (p. 57). In other words, imitation and identification both describe the same behavioral phenomenon: observational learning.

Mussen (1969) has described sex-typing as the process by which a person develops the behavior, personality characteristics, emotional responses, attitudes, and beliefs that his or her culture has deemed appropriate for his or her sex. Disagreement arises in the hypotheses about the conditions which favor and promote sex-typing, or identification with the same-sex parent. For the psychoanalytic theorists, sex-typing is the indirect result of anatomical differences, an integral part of the identification process, and an upshot of the Oedipal complex. In other words, "the basic patterning of sexual attitudes is instinctual and 'natural' in its origins, but (...) the expression of these patterns are eventually channeled, distorted, or influenced by cultural forces" (Kohlberg, 1966: 85). According to social learning theorists, sex-typing comes about as a result of a system of parental rewards and punishment. Stated in different terms, social learning theorists see "the patterning of sexual attitudes as a reflection of the patterning, or sex-typing of the culture. Culture socializing agents sex-type their own and the child's behavior" (Kohlberg, 1966: 85).

From the point of view of social learning, a child's acquisition and performance of sex-typed behavior can be described by the same learning principles used to analyse any other aspect of an individual's behavior. This process involves discrimination between sex-typed behavior patterns first of all, then generalization from specific learning experiences to new situations, and finally performance of sex-typed behavior. Sex-typing also includes direct and vicarious conditioning of many stimuli that acquire differential value and evoke different attitudinal and emotional responses from the two sexes.

Therefore, according to the social learning view of sex differences, a child's behaviors and values are determined by his social learning history, and not by his gender role. A social agent's power and willingness to reward determine his or her effectiveness as a model; in other words, children tend to imitate the behaviors of the more powerful adult, regardless of whether the adult be male or female. Consequently, cross-sex imitation may occur when the opposite-sex model is observed to have greater power than the same-sex model. However, although boys and girls learn the behaviors of both sexes, the degree to which they perform and value these behaviors differs ostensibly. The consequences that occur when a child first attempts to perform sex-typed behaviors play a vital role in their subsequent performance. Children learn quickly which behaviors are sexually appropriate for them through a sometimes very tangible, sometimes extremely subtle system of reward, nonreward, punishment, and direct and vicarious conditioning. Because of vicarious conditioning, most sex-typed behaviors need not be performed by the child in order for him or her to learn that they have "differential consequences" for the sexes.

C. The Cognitive-Developmental Position

According to cognitive-developmental theorists (Kohlberg, 1966; Mussen, 1969), a child's sexual attitudes and sex role concepts are direct reflections of neither innate biological structures nor cultural patterns, but rather the "result of the child's active structuring of his own experience" (Kohlberg, 1966: 85). In other words, psychosexual development starts directly with cognition, and not with either biology or culture.

Following the Piagetian tradition, cognitive-developmentalists postulate that "children develop a conception of themselves as having an unchangeable sexual identity at the same age and through the same processes that they develop conceptions of the invariable identity of physical objects" (Kohlberg, 1966: 83). In addition, parental attitudes many differentially stimulate or retard the development of these basic sex role attitudes, rather than teach them directly through reinforcement and imitation or identification, i.e. through observational learning. The cognitive-developmental theory is useful for understanding the great individual variations in children's sex role attitudes within a given culture which, Kohlberg claims, are related to age and to intellectual and social maturity.

Cognitive-developmentalists stress, as do social learning theorists, the social basis of learning sexually appropriate behavior; however, they point out that "this learning is cognitive in the sense that it is selective and internally organized by relational schemata rather than directly reflecting associations of events in the outer world" (Kohlberg, 1966: 83). Most cognitive-developmental theorists recognize the interaction of biological-genetic and cultural-environmental factors as significant forces that may influence or deflect psychosexual development in individual cases. What they do not accept is that sex role identity is a product of social sex role learning; they see it as the cause.

The "critical period" hypothesis has important implications for the cognitive-developmental theory of psychosexual development. The notion that an experience at a critical period in the unfolding of instinctive patterns can affect subsequent behaviors and attitudes has received considerable support from animal and clinical research. Money, Hampson and

Hampson (1957) have done considerable research in the area of "critical periods" and "imprinting" in ground nesting birds. Also, in an attempt to determine the extent to which a child's learning of his sex role may be influenced by underlying biological predispositions, Money and Ehrhardt (1972) have studied persons whose original sex assignment was either incorrect or ambiguous because of the appearance of their external genitalia. On the basis of these studies, they have advanced the hypothesis that sex roles are entirely the result of a learning process which is quite independent of chromosomal, gonadal, or hormonal sex. In other words, sex role identity is determined entirely, for all practical purposes, by environmental conditions during the first few years of life. Money and Ehrhardt (1972) suggest that the development of normal adult sexual behavior is contingent upon having been socially assigned to a given sex before the age of three or four. The imprinting in young birds, described by Money et al (1957), is analagous, in humans, to the "fixation" of an abstract self-concept or identity. Such labeling of the self, a basic cognitive categorization, is apparently irreversible. After a certain point - once one's sexual identity has been cognitively stabilized in the "critical period" - it becomes extremely difficult if not impossible to change it by sex role reassignment and social reinforcement.

The cognitive-developmental theory is based on the "critical period" data, particularly the following points:

(1) Gender identity, i.e., cognitive categorization as 'boy' or 'girl', is the critical and basic organizer of sex role attitudes.
(2) This 'gender identity' results from a basic simple cognitive judgment made early in development. Once made, this categorization is relatively irreversible and is maintained by basic physical-reality judgments, regardless of the

> vicissitudes of social reinforcement, parent identification, etc.

Claiming that a simple gender self-categorization organizes sex role attitudes, cognitive-developmentalists then postulate the following:

> (3) Basic self categorizations determine basic valuings. Once the boy has stably categorized himself as male, he then values positively those objects and acts consistent with his gender identity (Kohlberg, 1966: 89).

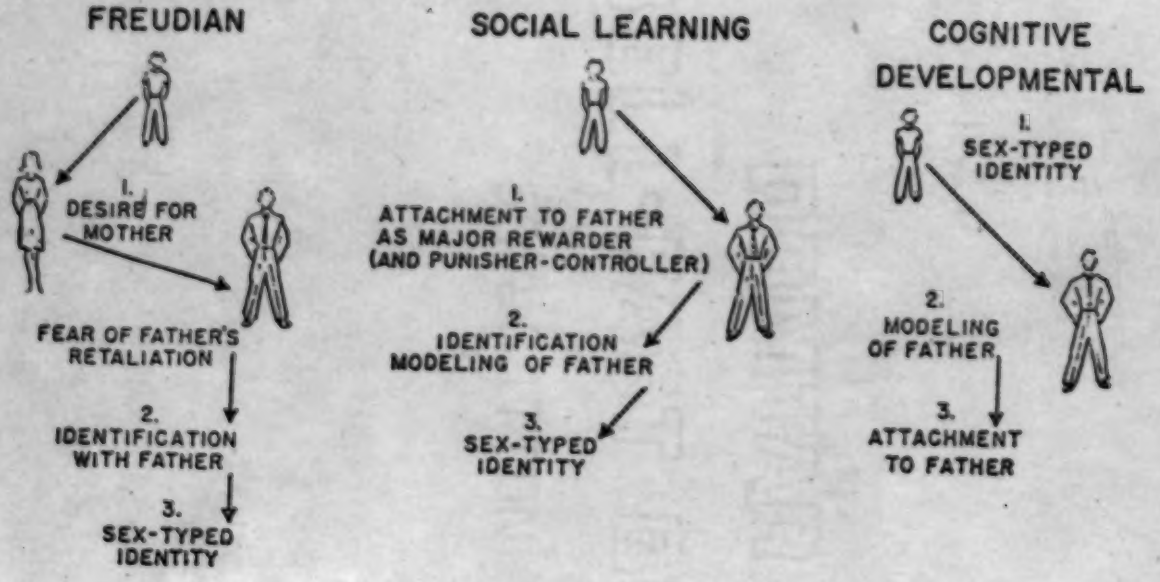
According to Kohlberg (1966), the social learning syllogism is: "I want rewards, I am rewarded for doing boy things, therefore I want to be a boy" (p. 89), whereas the cognitive-developmental theory assumes the syllogism: "I am a boy, therefore I want to do boy things, therefore the opportunity to do boy things (and to gain approval for doing them) is rewarding" (p. 89). Although both theories emphasize the social basis of learning sexually appropriate masculine and feminine behaviors, there exists a basic conflict between the cognitive-developmentalists' view that the child first learns his or her sex and then selects his repertoire of behavior, and the social learning theorists' view that the child's sex identity is a product of previously learned behavior. Further research is deemed necessary to resolve the theoretical conflicts.

Figure 2 (see p. 57) outlines the three theoretical sequences in psychosexual development which have been discussed above.

D. Sex Role Deviances

Kohlberg uses the instance of "recurrent and resistant forms of sexual psychopathology in cultures and families that strongly disapprove of them" (p. 86) to strengthen his position that sex role identity is not the product of a strict and fixed instinct nor simply the result of cultural patterning. Freud got around this difficulty by postulating the

Figure 2



Theoretical sequences in psychosexual identification.

(in Kohlberg, 1966: 128)

existence of "innate 'abnormal' or deviant instinctual patterns which unfold in early childhood, and which can be fixated through childhood experience" (Kohlberg, 1966: 86). As a matter of fact, Freud explained all forms of psychopathology in terms of fixations at pregenital stages of psychosexual development or as the result of deep underlying sexual conflicts.

Pick (1961) is one of the few theorists who have attempted to systematically classify maladjustment in children on the basis of social learning. It should be pointed out that Pick is considering maladjustment in general rather than specifically sexual terms. He makes the conventional distinction between organic and functional disorders by positing three major categories:

> (1) organic-structural (e.g. brain injury);
> (2) biochemical-functional (e.g. endocrine disturbance); and
> (3) learning-psychological (in Kessler, 1966: 94).

The third category, which is the one of interest in the present discussion, is further subdivided into disturbances attributable to: "(a) lack of learning; (b) inappropriate learning; and (c) learning of conflict" (in Kessler, 1966: 94). Lack of learning - or lack of training - refers to parental deficiencies in child rearing. In such a case, a parent would actively encourage inappropriate behaviors in a child (for example, dress a small boy in feminine attire on a continuous basis). Inappropriate learning refers to deficiencies in the models provided for identification. This could occur in a home where either the father or mother is absent or provides a very weak image of power for the same-sex child. Learning of conflict is a special case of inappropriate learning. Pick contrasts "neurotic conflict" and "sociological conflict". Neurotic

conflict is "conflict between an instinctual drive, or a primary motive, and a secondary more socialized motive" (Kessler, 1966: 94). For example, a small boy feels like crying and running to his mother for consolation when he falls and skins his knee, but does not do so through fear of being called a "sissy". Sociological conflict is the result of learning a behavior appropriate to one situation which is inadequate in another situation; e.g. a little girl likes to play rough and tumble games in the back yard at home, but finds she must not do this when she is wearing her pretty new dress and visiting grandmother.

Cognitive-developmentalists accept the notion that there are important linkages between childhood experiences and adult sexual psychopathology. They explain these linkages in terms of "the cognitive distortions characteristic of childhood sexual concepts which may become 'fixated' by certain interpersonal experiences that stabilize distorted conceptions of body interactions and body feelings" (Kohlberg, 1966: 88). As was mentioned previously, they recognize that biological-genetic and cultural-environmental factors may retard or deflect psychosexual development in individual cases, but conceive of these factors as contributors to individual variations rather than as the basic source of patterning in sexual attitudes.

A major concern in the area of sexual deviance is identification and treatment of children with "cross-gender manifestations" (Rekers and Lovaas, 1974) because these may be indicative of later adult sexual abnormalities: transvestism, transexualism, homosexuality. It should be noted that there exists a double standard in the area. The concern seems to be much greater for boys than for girls. As a matter of fact, in our culture,

it is much more acceptable for a girl to wear pants and perform "tomboy" behaviors than it is for a boy to play with "girls' toys" or to wear a dress. This difference is attributed to differential social attitudes and treatment of the sexes (Brenton, 1966; Green, 1967).

Brenton points out that boys are already pressured to restrict their activities exclusively to what is "masculine" while only in kindergarten, whereas girls are allowed considerable freedom to be "tomboys" almost as long as they want. Harsh demands on the boy are made and enforced before he is capable of understanding the reasons behind them. The demands are usually defined not positively but negatively as things he should not do or be. A great many boys live in a perpetual panic at being caught doing anything that might even vaguely make them appear a "sissy". Most girls do not have similar fears of being labeled a "tomboy". Quite a few, in fact, are proud to have earned the title! Girls can have "opposite sex" interests, and yet maintain their same-sex values much more readily than boys. A possible explanation for this discrepancy lies in the fact of the superior prestige of the male adult role in our culture. The "tomboy" is therefore rewarded to a certain extent, but the "sissy" is ridiculed and sanctioned because, essentially, his behavior is considered to be a form of regression to an inferior status - that of the female.

Although Brenton strongly disapproves of cultural stereotypes, he does not advocate a complete absence of childhood sex role differentiation. He believes that it would be difficult to conceive of a boy who is given a girl's name, consistently dressed in girls' clothing, and encouraged to play with dolls and such, growing into a man at ease with

his own sexuality. This, he feels, is just not possible in a culture such as ours.

> The danger lies not in making it clear to the boy that he's of the male sex, but in making it so inflexibly clear that the boy, father to the man, will grow up to assume the many adult stereotypes of masculinity that have such an imprisoning effect on personality (Brenton, 1966: 63).

Since 1966, the time of Brenton's writing, males wear their hair longer and even have it curled or permed. There is presently almost as extensive an array of fragrances, colognes, lotions, soaps, and powders for males as for females. Males quite freely dress in clothes just as "frilly" and colorful as that of femlaes, and wear beads, earrings, and other jewellery. It has become difficult to distinguish between the sexes on the basis of their attire or hair style, although of course, the physical build and other sexual characteristics remain.

Although the American Psychiatric Association no longer considers homosexuality an illness, the question is still a topic of debate in many circles. It has, throughout history, been defined as a crime, a sin, a disease, a way of life. Hooker (1965) reports a study of the Rorschach protocols of 30 homosexuals and 30 heterosexuals by three psychologists who agreed that two-thirds of the homosexuals were average to superior in adjustment, and draws the conclusion that sexual deviance in itself does not necessarily mean social maladjustment. On the other hand, Bieber (1965) argues that homosexuality is clearly pathological and incompatible with a reasonably happy life. Interestingly, Freud did not consider it an illness. He wrote:

> Homosexuality is assuredly no advantage, but it is nothing to be ashamed of, no vice, no degradation, it cannot be classified as an illness;

> we consider it to be a variation of the sexual functions produced by a certain arrest of sexual development (in Marmor, 1965: 15).

Szasz (1965) holds the view that homosexuality is a problem mainly because it "presents, in sexual form, the classic dilemma of popular democracy: How much diversity should society permit? (....) In our day, homosexuality is a moral, political, and social problem" (pp. 137-138). But, he emphasizes, it is the problem of society and not of the individual homosexual. The majority of homosexuals think of themselves as a minority group, sharing many of the problems of other minority groups, and having to struggle for their rights against the prejudices of a dominant heterosexual majority.

A pertinent question, arising from the preceding discussion, concerns the treatment of homosexuality and other forms of cross-gender behavior. It should be recognized that only a small fraction of the total number of homosexuals in our society seek therapeutic help. Those who do so are usually motivated by problems resulting from their "interactions with a hostile society - legal, social, or economic threats or inability to accept their homosexuality because of its deprecated image in their own eyes and in those of the world at large" (Marmor, 1965: 20).

In certain countries and certain states, homosexuals are subjected to involuntary hospitalization and treatment. Their homosexuality is considered to be a possible expression of

> fear of the opposite sex, fear of adult responsibility, a need to defy authority, or an attempt to cope with hatred of or competitive attitudes to members of one's own sex; it may represent a flight from reality into absorption in body stimulation very similar to the auto-erotic activities of the schizophrenic, or it may be a symptom of destructiveness of oneself or others (Thompson, in Hooker, 1965, 87).

It is commonly agreed, among many professionals, that there is no ethical or scientific justification for forcing treatment on an unwilling adult homosexual. Very few, however, extend this same consideration to children and adolescents. According to Marmor (1965):

> Psychiatric intervention is prophylactically indicated for children or adolescents who seem to be failing to make appropriate gender-role identifications. As long as we live in a society that regards homosexuality as an undesirable behavioral deviation, the ultimate adaptations of such children to their inner and outer worlds will be potentially better ones if they can be prevented from developing homoerotic patterns (p. 18).

A particularly relevant example is the application of the principles of social learning to offset sexual psychopathology in a controversial treatment program for boys with cross-gender manifestations organized by Rekers and Lovaas (1974). The program is an attempt at helping "gender disturbed boys", using behavior modification techniques, to learn appropriate masculine behaviors. The cross-gender manifestations consist of the following behaviors:

> (1) cross-gender clothing preferences,
> (2) actual or imaginal use of cosmetic articles,
> (3) feminine behavior mannerisms,
> (4) aversion to masculine activities, coupled with preference for girl playmates and feminine activities,
> (5) preference for the female role,
> (6) feminine voice inflections and predominantly feminine content in speech, and
> (7) verbal statements about the desire or preference to be a girl (Rekers and Lovaas, 1974: 173).

Rekers and Lovaas admit that society could afford to be more tolerant of such deviations, but believe that since, in reality, society is not more tolerant it is less difficult to modify the individual's behavior than that of society's. Proponents of the various liberation movements

are very critical of the refusal of professionals to even consider trying to change society instead of the individual. Their angry question is: "How will society ever change if accomodating psycho-technologists keep changing us to conform to society?" (Rorvik, 1975, 53). An alternative therapeutic goal might be to eliminate present anxieties and discomfort without attempting to eliminate the homosexuality per se.

Throughout this discussion one important point has been emphasized. Because sexual behavior is so intimately entwined with moral issues, aesthetic reactions, religious, ethical and cultural value systems, and psychological viewpoints, it is difficult to approach the topic of human sexuality with the same kind of dispassionate scientific objectivity that can be applied to other human functions. Patterns of sexual behavior have taken many diverse forms over the centuries and throughout the world. There is nothing about our current sexual attitudes and practices that can be assumed to be either inviolable or immutable. Our attitudes concerning nudity, virginity, fidelity, love, marriage, procreation, and appropriate sex role behaviors are meaningful only within the context of our culture. According to Marmor (in Juhasz, 1973):

> No discussion of human sexual behavior can be truly objective if one does not attempt to stand outside of the narrow framework of one's own cultural bias to see how the raw data of human sexual biology are shaped by and shape the infinitely varied mosaics of human experience in different places and at different times (p. 97).

CHAPTER III

THE STUDY OF INTERESTS

A. The Nature of Interest

Strong (1943) defines interest, experimentally, as "a response of liking" (p. 6), supporting a statement by Fryer (1931) that "objective interests are acceptance reactions" (p. 349). Strong (1943) also offers a definition of attitude by Nelson (1939) as being an equally suitable definition of interest. Nelson's definition of attitude is as follows:

> An attitude may be considered a felt disposition arising from the integration of experience and innate tendencies, which disposition modifies in a general way the responses to psychological objects (in Strong, 1943: 9).

Others (Thorndike, 1935; Evans, 1965) have gone to extensive lengths to distinguish between interest and attitude. According to Evans (1965), "attitude is the broader term, and an attitude represents a general orientation of the individual. Interest, on the other hand, is more specific and is directed towards a particular object or activity. It is a response of liking or attraction" (p. 92). Jersild and Tasch (1949) and Sarhan (1950) use the term interest broadly to include "things the child likes, dislikes, is concerned about, or is worried about" (Sarhan, 1950: 5).

Strong (1943) outlines the characteristics of interests. He points out, first of all, that "interest is an aspect of behavior, not an entity in itself" (p. 8). Because psychologists find it extremely difficult to examine an entire unit of human behavior, they are forced to study such aspects of the whole unit as are available; however, studying habits or interests alone gives an inadequate notion of a unit of human behavior. A second characteristic of interests is that they are learned. "Since

interests involve reactions to specific things, they must all be learned. Accordingly, they may be modified later on by re-education" (p. 10). The principles of reward and punishment often enter into the learning of interests. Thorndike (1935) states:

> The results of our experiments support the conclusion that a person can be taught new attitudes and tastes as surely though not as easily as he can be taught facts or skills. The basic principles of learning by repetition and reward seem to operate with wants, interests, and attitudes as they do with ideas and movements (p. 189).

Thorndike's concept of learning by the law of effect is illustrated by Strong (1943): "when any activity associated with an object enables the individual to satisfy his desire, the activity tends to be liked - thus a new interest is acquired" (p. 11). Thus the great majority of interests appear only after experience with, and/or reactions to objects and persons.

Woodworth (1918) postulated a close connection between interests and capacities:

> Human interests keep pace with human capacities. Almost always, where a child displays talent, he also displays interest. It might not be amiss (...) to speak of a native capacity (p. 74).

Experimental studies have not supported Woodworth's hypothesis. However, according to Strong (1943), it has been found that characteristic sex differences in interests are clearly evident in children by the age of fifteen. The fact that such interest patterns are present before any training or experience in occupations motivated Strong to ask: "are these patterns caused by purely environmental factors or by inherited tendencies?" (p. 12). He reflects on his own question:

> Either these interests are expressions of their abilities and therefore of inborn characteristics

> or else they result from social forces not yet recognized in this connection. If the latter is the case, there is great need for research on the problem (....) If social forces are responsible it would appear that they reside largely in the home and the elementary school; else we would not have such distinct differences in interests as early as the high school (p. 13).

It is the position of the present paper that interests and interest patterns are very definitely the result of social forces, or more precisely, of the differential socializing processes for boys and girls during infancy, early childhood, and early school years.

A third characteristic of interests is that they cannot be directly determined but must be inferred from what an individual says or does and from the use of tests. In other words, interest is not directly related to success (defined as productive achievement). This is true for several reasons. First of all, interest in an activity indicates satisfaction but not necessarily success. Satisfaction many be the involved individual's criterion of success, but it may or may not be related to success, efficiency, or ability as viewed by another. Also an activity may be liked or disliked long after one has ceased to carry on that activity. Expressing like or dislike for a certain activity is no guarantee that any particular effort will be expended to act accordingly. Thirdly, interest in an activity often arises in relation to some trivial aspect of the activity rather than because of its essential characteristic; for example, a child may say she likes arithmetic when in actuality it is the teacher of that subject who is liked. Finally, because interests <u>sometimes</u> but not always indicate success, they cannot be relied upon as certain indicators of success. While it is true that there is some relationship between interests and success, they are at best unreliable and indeterminate indicators of success.

Strong (1943) makes a distinction between uninformed and intelligent interests. He describes an uninformed interest as "merely a reaction to the thing as a whole without any particular awareness of the aspect of the thing which arouses liking or disliking" (p. 17). On the other hand, "an intelligent interest is one where the activity has been subdivided into its component parts and the person knows that he likes several parts, dislikes possibly certain other parts, and is indifferent to the rest" (p. 17). Intelligent interests are very potent factors in determining achievement. Wyman (1925) shares Strong's conclusion that intellectual interest is the most reliable indicator of success, but poses the following question: "must a child be interested in what he is doing in order to achieve success in it, or is it the ability to succeed that gives the interest? In what direction does the causal relation lie?" (p. 480). Wyman points out that

> some children who are not highly interested have succeeded, but they are highly intelligent. Again, some highly intelligent, but not highly interested, have not succeeded; and finally, some with lower intelligence and not a high degree of success are highly interested (p. 480).

He then goes on to answer his own question: "the answer (...) then is that a child must be interested to achieve success, the greater the interest and the higher the intelligence, the greater the success - and not that ability to succeed produces the interest" (p. 480). Wyman's conclusion holds important implications for understanding sex differences in various school subjects. For example, perhaps girls would achieve better in the so-called "masculine" subjects like mathematics and science if they could allow themselves to be interested in these areas without the fear of being 'unfeminine". Hubbard (1928) suggests a related

conclusion: that "interests and abilities seem to be independent variables, each one contributing its own quota to the ultimate success" (p. 249).

Still another characteristic of interests is that they are subjective experiences. The most direct way to measure them is to have the individual report his likes and dislikes, but because a person's subjective feelings cannot be experienced by another there is no way to check the accuracy of his reporting.

Interests have rarely been considered as significant for their own sake. Their value has most often been considered from the point of view of educational achievement and vocational counselling. If enjoyment is just as important in everyday life as productive achievement, as so many maintain, then surely interests have an intrinsic value. They are reflections of what an individual considers satisfying and fulfilling, whether or not they are related to successful achievement.

B. An Overview of Interest Studies

Although modern educational and psychological theory recognizes the importance of interests in the lives of human beings, it has not always been so. The old conception of education was based on early philosophy, and thus "viewed human desires as evil, taught that the heart must needs be subordinated to the mind" (Strong, 1943: 4). According to Strong (1943), "the first step in educating the child was to 'break his will'. The second step was to force him into the mold of the adult" (p. 4). Emphasis was placed almost totally upon effort, and the educational value of a task was judged by how intellectually difficult and emotionally distasteful it was.

Since the middle of the eighteenth century, many eminent educational leaders and philosophers led a revolt against ignoring children's interests in the educational process. Rousseau (1712-1778) expounded a new conception of education. He taught that

> education (...) is a development from within, not an accretion from without. It comes through the workings of natural instincts and interests and not through response to external force; it is an expansion of natural powers, not an acquisition of information; it is life itself, not a preparation for a future state remote in interests and characteristics from the life of childhood (in Strong, 1943: 4).

Hebart (1776-1841) viewed education as "the process of stimulating the spontaneous interests of the individual" (in Strong, 1943: 5). According to Hebart, the main concern of education should be the arousing of interests as a means of attaining its ultimate purpose, virtue. Herbartian psychology led to a great emphasis on methods of presentation of previously selected subject matter. Dewey (1859-1952) decried this "sugar-coating" of barren, dead information. He believed that no interest is meaningful except interest in the goal and the means which the person employs to reach his desired goal. Hall (1906) with his "recapitulation theory" called the attention of educators to the importance of observing children's interests. Monroe (1906), in his history of education, attempted to reconcile the old doctrine of effort which stressed efficiency and the newer doctrine stressing the individual child and his satisfaction. In his words

> interest is essential as the starting point of the educative process, effort is essential as its outcome. The purpose of appealing to the interest of the child is to lead him to the point where he will put forth effort to master the unsolved problem, the undetermined relationships of his environment (p. 566).

The concept of interest had very little place in behavioristic psychology which stressed environmental factors. According to Strong (1943) "interest connotes activity arising from within, and no good behaviorist could admit that anything in consciousness could influence behavior" (p. 5). In early animal psychology, rats ran mazes and their time and error scores were carefully recorded in an attempt to discover how they learned the right pathways. Early experiments in human psychology measured reaction time, attention, memory, and habit formation. Motivation in both animal and human subjects was largely ignored. The subjects were considered to be merely utilizing their reflexes and old habits, and developing new skills.

At the other extreme, man's internal mechanism was held responsible for such actions. According to James (1908),

> millions of items of the outward order are present to my senses which never properly enter into my experience. Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind - without selective interest, experience is an utter chaos. Interest alone gives accent and emphasis, light and shade, background and foreground - intelligible perspective in a word (p. 402 - italics in original).

Since the 1920's, there has been a great advancement in interest studies, as in other personality variables. Fryer (1931) did a comprehensive review of the methods of measuring interest and of the studies of interest to 1930. Thorndike (1935) studied the psychology of wants, interests, and attitudes. Strong (1943) followed Fryer with a thorough review of methods of measuring interests, and of the studies of vocational interests to 1943.

Mitchell and Mason (1941), in an analysis of the theory of play, considered the motives and interests of players. They pointed out that several psychologists, early in the twentieth century, had posited a system of instincts to account for all types of human behavior (Angell, 1904; James, 1908; Thorndike, 1913; Drever, 1917; Hunter, 1919; McDougall, 1921). Mitchell and Mason (1941) presented an outline of eight major instincts listed by Karl Groos (1901) to account for the main motives that mankind has in playing. These are presented in Table 4.

Table 4

Eight Instincts Accounting for Play Motives

Play Motives	Individualistic	The instinct for activity The instinct for self-improvement The acquisitive instinct The constructive instinct
	Associative	The social instinct The imitative instinct The competitive instinct The mating instinct

(in Mitchell and Mason, 1941: 115)

Thomas (1931) tabulated those motives or wishes which appear to be present in some degree of intensity in all human beings wherever they may be found. He reduced them to four types which he considered to be universal and common to all mankind: the wish for new experience, the wish for security, the wish for response, and the wish for recognition. Faris (in Kreuger and Reckless, 1931) suggested a rearrangement of Thomas' four wishes and an addition of a wish for participation. His classification was as follows:

(1) segmental wishes, such as appetities and cravings (hunger, thirst)

(2) the social wishes, including
    (a) the desire for response
    (b) the desire for recognition
    (c) the desire for participation
(3) the derived wishes for new experience and security (p. 175).

Mitchell and Mason (1941) substituted the concept of wishes for the earlier concept of instinct as the basis of motivation. Using a conbination of the Thomas and Faris classification of wishes, they listed the interests included under these wishes. Table 5 outlines Mitchell and Mason's classification of interests.

Table 5

Classification of Interests

New experience	Fighting; pursuit and capture Competition Hunting Curiosity Roving Speed Creativeness
Security	Flight and avoidance of danger Acquisition Imitation (from fear of social disapproval Religion
Response	Sociability Courtship and mating Parental love Boon friendship Altruism
Recognition	Desire for victory Desire for proficiency Desire to lead Showiness Desire for undying fame
Participation	Desire for membership in groups Desire for affiliation with causes
Aesthetic	Desire for beauty in color Desire for beauty in form Desire for beauty in sound Desire for beauty in motion Desire for rhythm in general

(in Mitchell and Mason, 1941: 115)

The structure of the studies by Jersild and Tasch (1949) was quite obviously influenced by Mitchell and Mason's classification of interests. Jersild and Tasch (1949) did a nation-wide survey of the interests of American children. Sarhan (1950), using the same research instrument, did a follow-up study comparing the interests of Egyptian children with those of American children. Evans (1965), in a British study of attitudes and interests in education, surveyed much of the experimental work done in Britain and the United States since 1930. An inter-related area, play, has also come under scrutiny. Lehman and Witty (1927) studied the psychology of play activities using a check list in their research design. Mitchell and Mason (1941) presented the historical background and various theories of play. More recent discussions of children's play can be found in Millar (1968) and Herron and Sutton-Smith (1971).

C. Sex Differences in Interests

An area of particular relevance to the present study is that of sex differences in interests. Strong (1943) has carried out the most comprehensive research on interests. He developed MF scales for measuring the interests of males and females and used these scales in his Vocational Interest Blank for Men and his Vocational Interest Blank for Women.

Strong (1943) and Tyler (1965) report that certain kinds of items in most interest inventories repeatedly show large sex differences. Distinctly masculine interests are indicated on the following items:

> (1) mechanical and scientific activities.
> (2) physically strenuous, adventuresome activities,
> (3) legal, political, and military occupations,
> (4) selling activities,
> (5) certain forms of entertainment such as smoking, rough-house initiations, and chess,
> (6) certain miscellaneous preferences, e.g., for outside work over inside, for working for oneself, etc. (Tyler, 1965: 251).

Distinctly feminine interests are indicated on the following items:

(1) musical, artistic activities,
(2) literary activities,
(3) certain kinds of people, especially the unfortunate and disagreeable,
(4) certain forms of entertainment, e.g., fortune tellers, full-dress affairs, and movies dealing with social problems,
(5) clerical work,
(6) teaching,
(7) social work,
(8) merchandise, that is, looking at shop windows, displaying merchandise, etc.,
(9) certain school subjects,
(10) miscellaneous characteristics (Tyler, 1965: 251).

A large number of studies of children's interests and related activities have been carried out by a variety of methods. The preferences of boys and girls have been compared in such areas as "play activities, spontaneous drawings, the choice of topics for written compositions, collections, reading, movies, radio programs, favorite characters in fiction or in public life, vocational choices, and general life goals" (Anastasi, 1958: 479).

Lehman and Witty (1927), using an inventory of 200 items, analyzed the play interests of approximately 10,000 American children. They found distinct differences between boys and girls regarding their play activities, but reported that there were practically no games which belonged exclusively to one sex. The greatest difference occurred at the nine and ten-year-old level; thereafter the play interests grew more alike. Tables 6, 7, and 8 (see pp. 76-78) present summaries of their findings in the area of sex differences.

Jersild and Tasch (1949), using a questionnaire technique, studied the wishes, interests, likes, and dislikes of 2,248 American children from grades 1 through 12. Children were asked to respond to the following series of items:

Table 6

Play Activities More Commonly Participated in by Boys Than by Girls at Practically Every Age

Football	Just playing catch
Using a hammar, saw, nails, etc., for fun	Coasting on a wagon
Wrestling	Rolling an auto tire
Marbles	Fishing
Riding a bicycle	*Playing pool
Climbing porches, trees, fences, posts, etc.	Pitching horseshoes
Throwing rocks and stones	Playing with bow and arrow
Playing cowboy	Swimming
Boxing	Digging caves or dens
Whistling	Spinning tops
Shooting a gun	Playing with toy trains, ships, autos, wagons, etc.
Playing Indian	Playing fire engine (or hook and ladder)
Playing robber and police	Running races
Basketball	Matching pennies
Baseball with a hard ball	Coasting on a coaster
Driving an auto	Playing bandit
Watching athletic sports	Playing soldier
Smoking	Playing with pet dogs
Jumping for distance	Playing with an indoor or playground ball
Jumping for height	Horseback riding
Mumbly peg	Rolling a hoop
Flying kites	Walking on stilts
Making or using a wireless, or other electrical apparatus	Hunting
Snowball fights	Building or watching bonfires
Pole vaulting	Building a dam

*In the case of some activities the sex difference is slighter than would perhaps have been expected because of the fact that few members of either sex engaged in the particular activity.

(in Lehman and Witty, 1927: 85)

My three wishes:
What I'd like to learn more about at school:
What I don't care to study about:
What I like best in school:
What I like best outside school (that is, away from school, when I'm not at school):

Table 7

Play Activities More Commonly Participated in by Girls Than by Boys at Practically Every Age

Playing with dolls	Teasing somebody
Visiting or entertaining company	Just hiking or strolling
Playing house	Hop, skip, and jump
Just singing	Playing nurse
Sewing, knitting, crocheting, etc. for fun	Listening to the victrola
Playing the piano (for fun)	Sleigh-riding
Writing letters	Reading short stories
Jumping or skipping rope	Telling or guessing riddles
Dressing up in older folks' clothing	Telling fortunes or having fortunes told
Playing school	Hop-scotch
Social dancing	Hide-and-seek
Jacks	Playing store
Playing movie actor or movie actress	Playing other make-believe games
London bridge	Statuary
Stringing beads	
Going to parties or picnics	"Here I come" "Where from?"
Folk-dancing	Tin-tin
Just imagining things	Other singing games
Looking at pictures	Old witch
Gathering flowers	Pussy wants a corner
Going to entertainments, concerts, and so on	Making mud pies, mud dolls, etc.
Playing with pet kittens	Painting with water colors
Playing Sunday school	Making a scrapbook
Drop the handkerchief	Taking snapshots
Cutting paper things with scissors	Roller skating

(in Lehman and Witty, 1927: 86)

What I like least at school:
What I like least outside school (that is, away from school, when I'm not at school):
What I want to be when I grow up:
The most interesting thing I have done at school during the past week or so:
One of the places I especially like to go in _____:
One of the happiest days in my life: (p. 2).

Table 8

Play Activities Which are Participated in About as Commonly by one Sex as by the Other

Dominoes	Doing calisthenics
Sleigh-riding	Just running and romping
Riding in an auto	Follow your leader
Excursions to the woods, parks, country, etc.	Run, sheep, run
Attending lectures	Anty-over
	Blackman
Chewing gum	Crack the whip
Having "dates"	Dodgeball
Card games, such as authors, bridge, whist	Croquet
Looking at the Sunday "funny" papers	Jackstraws
Reading jokes or funny sayings	
Reading the newspapers	Pillow fights
Reading books	Playing in the sand
Listening to stories	Post-office
Writing poems	Three deep
Doing gymnastic work	Other ring games

Clay modelling
Drawing with pencil, pen, chalk, or crayon
Other toys
Picture puzzles
Playing with pet rabbits
Playing with other pets

(in Lehman and Witty, 1927: 87)

In his comparative study of the interests of Egyptian and American children, Sarhan (1950) was able to explain the numerous discrepancies in the results through his knowledge of the differences between the two cultures. Sarhan's study lends much support to the theory that "masculine" and "feminine" interests are culturally determined.

To summarize, boys generally engage in active, vigorous games requiring muscular dexterity and physical skill, whereas girls tend to enjoy more sedentary, conservative, quiet play and games requiring skillful movements. In movies, radio programs, television shows, and

reading, boys prefer adventure, mystery, and action stories, whereas girls are more interested in sentimental and domestic stories about love, romance, children, and family life. Older girls, in their vocational interests, place high value on interesting job experiences and types of occupations where they would be able to render some kind of social service. On the other hand, boys want jobs which will give them power, economic profit, and independence. In areas of life concerns, boys indicate that they are most interested in discussions concerning physical health, safety, money, and sex. Girls are more concerned about personal attractiveness, personal philosophy, planning the daily schedule, mental health, manners, personal qualities, and home and family relationships.

Games, toys, and fantasy heroes chosen by children also appear to be sex-typed, although preferences are more variable among girls than among boys. Studies by Brown (1957), Hartup and Zook (1960), and Kagan (1964) reveal that "many girls between three and ten years of age show a strong preference for masculine games, activities, and objects; whereas, it is unusual to find many boys who prefer feminine activities during this period" (Kagan, 1964: 142). Rosenberg and Sutton-Smith (1960) tested children in grades 4, 5, and 6 for game preferences. Their results suggested that in 1960 girls were more masculine in their game choices than they had been thirty years earlier. The same did not hold for boys. It is possible that some of the traditional differences in sex-typed game choices are undergoing some change.

Rabban (1950) points out that there are social class differences in the game choices of children. He asked children, aged three to eight, from middle-class and from working-class homes to select the toys they liked best. The choices of children from the lower-class homes were more

conforming to traditional sex-typed standards than the choices of the middle-class children.

A large body of research on children's games and toy preferences (Foster, 1930; Honzik, 1951; Rosenberg and Sutton-Smith, 1960) indicates that

> boys choose objects related to sports, machines, aggression, speed, and power roles; whereas the girls select games and objects associated with the kitchen and home, babies, personal attractiveness, and fantasy roles in which they have a subordinate relation to a male (nurse, secretary). Thus knives, boats, planes, trucks and cement mixers are regarded by school children as masculine; dolls, cribs, dishes, and nurses' equipment are regarded as feminine (Kagan, 1964: 141).

The Rekers and Lovaas program for "gender-disturbed boys" makes use of the previously mentioned research results in the development of their inventories and questionnaires devised to assess the severity of the "gender problem". Rorvik (1975), in his criticism of the program points out that

> London Bridge, see-saw, slides, swings, follow the leader and blocks get lumped with ring around the rosy, play with dolls, and play nurse as games which the researchers consider effeminate for boys above the second grade; masculine games include fishing, hiking, hunting, and play with toy guns. Dancing, play acting, liking fairy tales 'like Snow White', enjoying romantic love stories and doing things with female relatives go under 'feminine behavior' on one of the parent inventories while 'liking people', 'trying to make new friends', 'liking to be alive', 'being physically aggressive' and having 'a great sense of humor' get masculine ratings (p. 86).

Millar (1968) shows that males tend to be more active and aggressive in their play, even though they might be playing the same game or with the same objects as females. Erikson (1965), who analyzed the symbolic arrangements and configurations found in the play of pre-adolescents, found that they were clearly sex-typed. He states:

> The most striking sex differences (...) concern the tendency among boys to erect structures, buildings and towers, or to build streets; among the girls, to take the play table to be the interior of a house, with simple, little or no use of the blocks (p. 681).

It is quite obvious, therefore, that differences in interests between males and females do exist. Greater differences occur in early life. Terman (1926) reported a correlation of .24±.06 between the play interests of boys and girls in the age range of 6 to 16 years, in contrast to a correlation of .83±.02 between two groups of girls.

The usual controversy arises when theorists attempt to explain or account for sex-typed interests: "Are interests spontaneous or are they culturally determined, or do both inheritance and culture influence them?" (Sarhan, 1950: 3). Strong (1943) quite aptly sums up these conflicting views when he wrote:

> Despite much research and discussion we do not know the causes of differences in interests between men and women. Possibly, as some claim, it is because boys and girls are brought up differently. Possibly it is because they possess somewhat different abilities - women apparently are superior to men in linguistic abilities, and men surpass women in mathematics and mechanical activities. Possibly, it is because they possess different fundamental drives because of differences in hormones (p. 216).

It is Strong's opinion that, since males and females desire different things in life, they have somewhat different interests. The differences in their interests throw light on their somewhat different aims in life. This circular explanation does not produce much enlightenment. Mitchell and Mason (1941) attribute sex differences in interests primarily to two factors: "(1) difference in physiological structure and function, (2) difference in social conditioning" (p. 161). They describe at length the physiological differences in skeletal framework, growth and maturation

rates, metabolism, and "glandular make-up" of the two sexes, and suggest that these physiological differences definitely play a role in the sexual differentiation of interests. However, they do admit that these physical differences are not sufficient to account for the behavior differences between males and females. In fact, they contend that, compared to social conditioning, they are a minor factor. "The role of women in society is defined by social tradition and from infancy on the girl is subjected to social pressures making of her a somewhat different type of being and predisposing her to different activity" (p. 162). Dornbusch (1966) is pretty much in accord with Mitchell and Mason; he suggests that "the differences (...) may be sex-linked because of some physiological factor, a difference in socialization, or very often, a totally unexpected product of both these factors" (p. 210).

Whereas Mitchell and Mason (1941), Strong (1943), and Dornbusch (1966) tend to follow a middle path, Dewey (1915) was quite adamant in his opinion:

> The idea that certain games and occupations are for boys and others for girls is a purely artificial one that has developed as a reflection of the conditions existing in adult life. It does not occur to a boy that dolls are not just as fascinating and legitimate a plaything for him as for his sister until someone puts the idea into his head (p. 84).

In the pre-liberation era, sex differences in interests (as in other areas) were accepted quite matter-of-factly: "this is the way it is; therefore this is the way it should be". Masculinity-femininity scales and different test forms for males and females were devised as a means of allowing for these "inevitable" diffferences.

Sarhan (1950) even went so far as to suggest:

> The greater interest of boys of both cultures in material things suggests the need for differentiation of reading activities, curricular

> emphasis, and extracurricular opportunities in order to permit adaptation to this sex difference (p. 40).

Frazier and Sadker (1973) are extremely critical of the concept of sexual segregation in classrooms or of instructional grouping by sex. They quote an article which appeared in an American educational journal in 1966. The article extolled the merits of classes separated by sex and outlined some teaching methods designed to cater to the differential interests of boys and girls.

> (1) In working with boys, we employ more science materials and experiments. There is more emphasis on building things and on studies of transportation. As a result, we can create and maintain a high level of interest.
>
> (2) We have found it well to let the interests of the classes guide the teacher in areas such as science and social studies. Depending on the sex of the group, this sometimes results in quite different activities. From studying the atom, for example, a boy's class moved easily into a study of nuclear fission. It is unlikely that girls would respond this way. Or another example, mold can be studied from a medical standpoint by boys and in terms of cooking by girls.
>
> (3) In all-boy and all-girl classes, we have used different songs and rhythms. For girls we use quieter games, fairy tales, and games and songs which emphasize activities such as sewing and housekeeping. For boys, we use more active physical games which involve noise and muscle movement and are based on a transportation theme.
>
> (4) Different reading stories are also used. Girls enjoy all stories in readers, even those about boys, but boys do not like stories about girls. Boys prefer tales and stories about industry, transportation, and vocations. The same difference applies to creative writing (Frazier and Sadker, 1973: 78).

Although such programs as the one outlined above allow for the traditional stereotyped differences in interests between the sexes, they certainly do not take into consideration individual differences among males or among females. If separate and different training were to be given to children of different ethnic backgrounds so as to provide for their "best possible adjustment" to future occupational life (in terms of existing ethnic and racial stereotypes) there would be a loud and justifiable outcry against such a blatant discriminatory practice. "Ironically, although racial segregation and stereotyping are now anathema, sex segregation and stereotyping are still acceptable in schools" (Frazier and Sadker, 1973: 79).

Most researchers have used interest testing to differentiate one group from another or to assign individuals to membership in one or more groups on the basis of their interest scores. Emphasis has been on differential interests. Because of this concern with group differences, it has not been realized that likenesses among the interests of individuals are far more striking than differences.

In reality, there are many more ways in which males and females resemble one another in their interests than ways in which they differ; also individual differences in interests among males or among females are greater than the differences between the two sexes. Anastasi (1958) has pointed out that "groups of men and women engaged in the same occupation showed very similar interest patterns" (p. 480). Thus, for example, female physicians or insurance saleswomen resemble male physicians or insurance salesmen much more closely in their interests than they do housewives or secretaries. In Table 9 (see p. 85), Strong (1943) presents an analysis of the similarities of likes between the sexes. As indicated in

the table, the correlation coefficient of .48 is the lowest between any two groups of human beings. This means that boys and adult women are the two groups which differ most in their interests. Nevertheless, the relatively high correlations among the various groups do emphasize the similarities in interests between the sexes.

Table 9

Similarity of Likes Between the Sexes*

	r
Boys vs. girls	.61
College men vs. college women	.74
Adult men vs. adult women	.71
Above 3 groups of men vs. 3 groups of women	.69
Boys vs. adult women	.48
Girls vs. adult men	.59

*Based on percentages of likes of 114 boys and 114 girls aged 16.5 years, 154 men and 154 women college students aged 19.3 years, and 335 adult men and 335 women aged 38 years.

(in Strong, 1943: 92

D. Techniques Used to Study Interests

Lehman and Witty (1927) reviewed the various techniques employed in studying play interests during the first three decades of the present century. Revised versions of these techniques have been and are being used in the study of interests. These techniques are:

(1) the questionnaire,
(2) checking activities from a printed list,
(3) personal observation,
(4) pooling or averaging of opinions,
(5) the recreational survey.

Each of these techniques has its uses and its limitations.

The questionnaire technique was a very popular means of investigating play behavior and interest areas during the early decades of the

twentieth century. According to Lehman and Witty (1927), a questionnaire with any elaboration whatsoever makes an unwarranted assumption that the child is capable of introspective analysis and verbal reporting. However, it does leave the children as free as possible to answer in their own way.

Checking activites from a printed list, the inventory, is a task more in accord with the abilities of children. However, this method may "beg the question" by suggesting to the child activities that could be interesting although he would not have thought of them on his own. It is also feared that check-list items might not be as comprehensive and as closely related to the actual interests or behavior of some children as they should be.

Direct personal observation avoids the inherent weaknesses of the questionnaire and the check-list, but it has its own limitations. Lehman and Witty (1927) summarize these limitations as follows:

> (1) Errors in identifying plays and games are likely to be encountered.
> (2) Make-believe play and day-dreaming are seldom revealed by this method.
> (3) The child's play behavior is likely to be modified if he suspects himself to be under surveillance.
> (4) It is impossible to observe all of the play behavior of any considerable number of children during all hours of the day and night (pp. 32-33).

Pooling or averaging of opinions of experts who presumably have obtained their information through extensive observation is another method. This method has fallen into disrepute because of its high subjectivity and unreliability.

Recreational surveys have produced lists of recreational facilities and suggestions for the improvement and expansion of these facilities,

but most of these studies have revealed little in regard to the extent to which children participate in the facilities provided. They are also unfruitful as far as actual behaviors and activities of children are concerned.

Fryer (1931) proposed two categories of interest: subjective and objective. Subjective interests are studied by four procedures:

(1) first choice,
(2) rank-order or preference,
(3) rating-scale, and
(4) inventory.

In "first choice" procedures, the individual records what he likes to do best, or the school subject or occupation which he prefers. Closely related to the "first choice" method is that of rank-order or preference. The Kuder Preference Record (Kuder, 1956) is of this type. In this case, the individual either ranks items in order of preference or checks all the items that are liked. With either procedure a preference list is obtained. A rating-scale technique requires the individual to rate himself or to be rated by others respecting his interests. Thorndike (1935) made extensive use of this procedure. It measures what interests are possessed and also the degree to which a particular interest is possessed. The inventory is the most commonly used type of subjective test. The principle underlying all subjective procedures is that individuals estimate the strength of their own feelings and supply subjective assessments of them. The scoring might be objective but the responses scored are not.

Fryer (1931) also lists four objective procedures for measuring interests. They are:

(1) the information test,
(2) the free-association test,

(3) the learning test, and
(4) the distraction test.

The information test is based on the assumption that if one is interested in a certain field, he will pick up more information about it than the average person. The Lambert and Peel General Information Test (1949) is of this type. The questions used in an information test should cover a wide range within the field and should avoid both information that can be picked up by casual observation and information that could be secured only by systematic study. The information test deals with a specialized field, and in examining the interests of an individual a whole series of tests may have to be applied, each one dealing with a separate field of possible interest. Testing the amount of information an individual has is supposed to measure his interest in that field. However, according to Strong (1943), the information test measures ability more than it does interest.

The free-association test was developed by Wyman and Terman in 1925. It was said to measure intellectual interests separate from intelligence as measured by an intelligence test, as well as social and activity interests. The free-association test has the advantage that one test can be scored for responses in a variety of fields, and is thus more economical of time and effort than the information test.

The learning test and the distraction test were both suggested by Burtt (1923). The learning test is based on the assumption that an individual learns better with pleasant feelings and interest. The distraction test is based on the assumption that one is less likely to be distracted when interested in what he is doing. According to Strong (1943), Burtt's learning test is mainly a measure of ability and his distraction test is mainly a measure of motivation.

Fryer (1931) suggested that the subjective measures of interest in use at that time should be eventually replaced by the newer objective measures, except in so far as they contributed something additional to the measurement. Up until now the subjective tests remain the most widely used.

E. The Interest Inventory

The inventory procedure is the method of testing interests that is of concern in this paper. Strong (1941) noted three different uses of this procedure:

> first, where the checked items are themselves considered as an aid in personal counselling; second, where summaries are obtained as to what items are liked by whom, etc.; and third, where scores are calculated from all the items on the given blank (p. 42).

Strong's primary concern was to score an entire blank in order to summarize all the information on it and to provide measures that could be employed diagnostically. This is the third use of the interest inventory described above. The second use of the interest inventory is the one pertinent to the present study.

Interests, as they are ordinarily thought of, are specific. Thorndike (1935) states:

> First, there is a great specialization of interests. Second, such group factors as appear seem more related to characteristics of the situation responded to than to unitary 'traits' in the persons. Music, sport, friendly intercourse, and talk, fiction, and drama are certainly more obvious and probably more significant as organizing causes than conscientiousness, pugnacity, love of achievement, curiosity, craving of bodily exercise, and the like (p. 506).

However, it is possible to recognize general interests. Items on an interest test considered individually are indicative of specific interests. But when scores are based on an entire interest test, certain generalizations may result. For example, Terman's masculinity-femininity scale discloses that males are interested more than females in mechanical, scientific things and females are interested more than males in linguistic, musical, artistic things. Strong (1943) points out that

> scores on such tests would sum up interest for the specific activities judged to represent the type. The question remains, however, does such a score represent a general interest or merely a sum of many related specific interests? (p. 20).

The interest inventory does not rely upon any single expression of interest. Conclusions are based upon a summary of many interests, each one furnishing some indication of the broad interest trend.

The interest inventory is useful because it makes it possible for individuals to indicate their liking for specific activities one at a time. Children, especially, can do this when at the same time they are often unable to verbalize the sum total of all their interests. The inventory also has its limitations. Some of these already have been pointed out, but they bear repeating here. The factors of suggestibility and arbitrariness were pointed out by Lehman and Witty (1927), by Jersild and Tasch (1949), and by Sarhan (1950). Fryer (1931) criticized early inventories because of errors in sampling, stating that the items included had not been systematically selected and that later inventories were based on earlier ones. He stated that items were added or discarded according to whether or not they distinguished between groups, the end result being a collection of distinguishing interests which separated out

the members of some groups but not those of others whose interests were not included. Fryer felt that inventories of this kind gave no information about interests which cut across all group boundaries and are held by many types of people. It was his opinion that indifference could be as important, in this type of study, as interest or aversion. Strong (1943), in comparing his Vocational Interest Blank with the Terman-Miles MF test, agrees with Fryer that the MF test scores represent the maximum differentiation that they were able to obtain. This occurs because the Terman-Miles test contains only the items which differentiate the sexes to the greatest possible degree. In the Vocational Interest Blank, Strong retained all items whether or not they differentiated between groups, thus making it possible to measure both similarities and differences.

A description of the methods of using and scoring Strong's Vocational Interest Blank (for males) should prove useful in understanding the SRA inventory of children's interests used in the present study. The Men's Vocational Interest Blank consists of 400 items. The person being tested responds by indicating whether he likes, dislikes, or is indifferent to each item. The items are divided into different sections dealing with occupations and certain general interest areas. Scores for the different areas should be tallied separately. No time limit is given, but it is generally believed that better results are obtained when the individual checks the blanks rapidly, and that a truer test of likes and dislikes is possible if first impressions are recorded.

Strong points out that interest blanks may be improperly filled out for several reasons. First of all, the individual may deliberately intend to falsify. Secondly, such an occurrence may be the result of

carelessness or misunderstood instructions. Thirdly, the individual may have unusual conceptions of the terms "like", "dislike", or "indifference". Excessive tendencies to use any one of the three categories too frequently will affect interest scores quite drastically. For this reason, blanks exhibiting extreme use of any one category are questionable.

According to Strong, misunderstandings easily arise when one fails to grasp such facts about interest tests as the following:

> (1) interest tests measure differences in interests between groups;
> (2) scores indicate the degree of certainty that certain interests are possessed, not the amount of such interests possessed (p. 71).

Differentiation of groups, in interest inventories, is measured by weighting the items which differentiate and ignoring the remaining items. Strong used two slightly different procedures in this connection. In the first case the interests of two groups are contrasted, as males and females, for example. In the second case, the interests of the men in one occupation are contrasted with the average of men in many occupations, referred to as a "men-in-general" group. It is the first procedure which is of most direct concern to the present discussion.

The percentage of "like", "dislike", and "indifference" responses of the two groups are compared item by item, and a plus weight is given to those responses which are preferred by men and a minus weight to those items preferred by women, the size of the weight being determined by the degree to which the two scores differ. A similar technique will be used in the present research design in order to determine both the items on which the sexes differ and those on which they may be similar.

Scoring can be done in terms of either the percentage differences or the weights. For example, if a person likes items a and b and dislikes item c, as indicated in the above table he would obtain scores of 30, -5, and 30, a total of 55 if scoring is done in terms of percentage differences, and 3, 0, and 3, a total of 6 if the scoring is done in terms of weights. This method of scoring is mentioned purely for the sake of interest, and will not be used with the SRA inventory of children's interests. The raw score obtained equals the sum of the 400 weights assigned to the responses to the 400 items on the Men's Vocational Interest Blank. (The latest revision of the Blank in 1965 contains only 399 items.) Raw scores are converted to standard scores, ratings, or percentiles in order to facilitate comparison with the scores of other groups.

As was pointed out earlier, each of the "like", "dislike", and "indifference" responses to the 400 items is weighted according to the greater or smaller percentage of the occupational group which reacts in that way as compared to the "men-in-general" group. Consequently, if a total score is plus, it means the individual has interests more in common with the criterion group than the "men-in-general" group; if the score is negative, the reverse is the case. On this basis, only positive raw scores can be considered as signifying possession of an occupational interest.

Strong, on several occasions, has pointed out that, actually, groups agree far more than they disagree as to their interests. Interests have been investigated very largely for the purpose of differentiating one group from another. As a result, differences have been emphasized and similarities ignored. In this connection, Strong poses two questions:

"Could not interests be scored just as well in terms of similarities as in terms of differences?" And would not there be rather different conclusions resulting from the two procedures?" (p. 618). Strong suggests that "scoring the blanks of men and women on two scales expressive of the interests of each sex might yield results not now disclosed by using the two different Blanks which stress the differences between the sexes" (p. 618).

What I Like To Do (1954) has only one form for both sexes and is to be recommended for this reason. However, like all interest inventories it has poor predictive validity. It also has poor construct validity. The SRA Examiner Manual (1954) gives little information about the actual development of their particular inventory. The writer suspects that Fryer's (1931) criticism (see p. 93) is justified where this inventory is concerned. Items were apparently selected from earlier interest studies and inventories. The division of items into eight interest areas and the assignment of specific items to particular areas is rather arbitrary. Just a few examples: folk dancing is listed under active play rather than music; making maps is listed under art rather than social studies; making artificial flowers is listed under manual arts, while making artificial fruit is listed under art. Some of the examples given tend to sex-type certain items, for instance, the item "collect pictures - such as baseball players or airplanes" is evidently sex-typed in favor of boys. A Canadian edition of the inventory is also desirable.[1]

[1] It has only recently come to the writer's attention that Science Research Associates have published a revised edition of the inventory in 1975. It is not yet available to the writer for perusal; however, it is hoped that the new edition is an improvement on the previous one.

CHAPTER IV

METHODOLOGY

A. The Research Hypothesis and Questions

The writer's position, as previously stated, is that the effects of liberation are very narrow in their reach, at least as far as children are concerned. Even parents who are interested and active participants in these movements have certain fears when it comes to socializing their children according to their liberated view. Furthermore, their influence is thwarted by the media, education, and various other socializing forces in our society. The subject of children's interests was chosen as one particular area of sex differences which required re-evaluation in the light of the new liberation ideologies. Thus, a research project which would probe the current interests of male and female children was developed. The research hypothesis is that a survey of interests in a random sample of children would indicate a distinct delineation of interests according to sex.

The original intention of the study was to compare the interests of two groups of girls. The girls were to be grouped as follows: thirty grade 4 girls whose mothers disagreed with or had no interest in the Women's Liberation Movement, and thirty grade 4 girls whose mothers claimed an active interest in the Movement. A standardized inventory of children's interests (What I Like To Do, 1954) was to be used to determine the specific interests of each child, and a female parent attitude questionnaire was devised to elicit information concerning mothers' involvement or lack of involvement with the Movement. The research project was modified for the following reasons:

(1) the two Edmonton school boards were unwilling to get involved, because of their concern regarding parental reaction to the questionnaire. Edmonton Public agreed to participate in the study if the questionnaire were not included;
(2) the original project, without any conscious discriminatory intent, excluded males, while actually the writer is concerned with the effects of liberation on both sexes;
(3) the readability of the inventory was considered to be better suited to a grade 5 level than to a grade 4 level.

The revised research project retained the original standardized inventory, but the female parent attitude questionnaire was dropped. The study was further modified to include a random sample of children, grouped according to sex, at the grade 5 level.

The questions which this study proposes to answer are the following:

(1) Do boys and girls at the grade 5 level differ significantly in their interests according to sex?
(2) If there is a significant difference in boys' and girls' interests, in what areas are these differences most outstanding?
(3) Are there specific activities within each interest area which are more or less significantly sex-typed than others?
(4) What interests do boys and girls have in common?

B. The Instrument

What I Like To Do (1954) is a standardized inventory of children's interests. It consists of 294 items providing separate scores for the following eight interest areas: art, music, social studies, active play, quiet play, manual arts, home arts, and science. Because of certain "Americanisms", twelve items in the social studies area (see Appendix) were slightly reworded using an equivalent Canadian substitute. For the same reason, one word was deleted from another item (see Appendix). In no way has the rewording or deletion changed the basic meaning of the item.

Table 10 presents the breakdown of items for each part score.

Table 10

Breakdown of Items for Each Part Score

Part	Name of Area	Item Numbers	Possible Total Score
A(1)	Art	1-30	30
B(2)	Music	31-60	30
C(3)	Social Studies	61-103	43
D(4)	Active Play	104-143	40
E(5)	Quiet Play	144-176	33
F(6)	Manual Arts	177-202	26
G(7)	Home Arts	203-234	30
H(8)	Science	233-294	62

(in SRA Examiner Manual, 1954: 5)

The score for art indicates "frequency of preference for active work with various arts and crafts, plus appreciation of the fine arts" (SRA Examiner Manual, 1954: 3). The music score indicates "pupil appreciation for various types of music, as well as interest in active musical experiences" (p. 3). The social studies score "indicates the degree of pupil interest in the various fields comprising social studies" (p. 3). The score for active play indicates interest in "independent activities plus competitive and noncompetitive group sports" (p. 3). The score for quiet play, on the other hand, indicates preference for both independent and group activities of a less active nature. The score in manual art indicates interest in "creative activities, as well as the more routine 'shop work' " (p. 3). The score in home arts indicates interest in "a variety of 'around-the-house' activities that apply to both boys and girls" (p. 3). The science score indicates the degree of a child's curiosity and interest in the natural world around him.

These scores are not totally independent of one another. Positive intercorrelations exist among the eight interest areas, as indicated in Table 11. In the computation of the intercorrelation matrices the sample was divided by sex only.

Table 11

Intercorrelations Among the Eight Interest Scores

(G) Girls: N=398 (B) Boys: N=402

		Art	Music	Social Studies	Active Play	Quiet Play	Manual Arts	Home Arts	Science
Art	G	....	.616	.568	.460	.567	.511	.510	.484
	B	....	.573	.555	.462	.590	.607	.547	.489
Music	G	.616	....	.510	.444	.526	.388	.489	.401
	B	.573	....	.523	.336	.471	.388	.483	.432
Social Studies	G	.568	.510	....	.366	.501	.405	.460	.682
	B	.555	.523	....	.419	.575	.482	.462	.758
Active Play	G	.460	.444	.366	....	.652	.598	.466	.480
	B	.462	.336	.419	....	.629	.561	.397	.421
Quiet Play	G	.567	.526	.501	.652	....	.612	.589	.631
	B	.590	.471	.575	.629	....	.706	.565	.594
Manual Arts	G	.511	.388	.405	.598	.612	....	.553	.572
	B	.607	.388	.482	.561	.706	....	.588	.541
Home Arts	G	.510	.489	.460	.466	.589	.553	....	.524
	B	.547	.483	.462	.397	.565	.588	....	.534
Science	G	.484	.401	.682	.480	.631	.572	.524	....
	B	.489	.432	.758	.421	.594	.541	.534	....

(in SRA Examiner Manual, 1954: 13

The inventory was devised, originally, for the following purposes:

> (1) to provide a workable means of identifying pupil interests so they may be utilized effectively in guidance and instruction, and
> (2) to provide a research instrument for the psychological study of children's interests (SRA Examiner Manual, 1954: 3).

It was the result of a thorough study of the literature on children's interests "as related to curriculum, leisure-time activities, social

living, personality development, and the all-around growth of pupils in the middle grades" (SRA Examiner Manual, 1954: 10). Its final version consisting of 294 items was subjected to a tryout study. The interest inventory was administered to a sample of 238 pupils from four elementary schools: 60 boys and 33 girls in grade 4, 67 boys and 78 girls in grade 5. One of the schools was of high socioeconomic status, two of middle socioeconomic status, and one of low status. Coefficients of reliability were computed by the Kuder Richardson formula (Case IV). Reliability coefficients for the grade 5 group are reported in Table 22 (see p. 113). It should be pointed out that it is not the intent of the present study to duplicate the tryout.

The inventory was standardized on a national basis in the United States in 1954. The sample was carefully selected for purposes of controlling five variables: grade, sex, urban-rural designation, socioeconomic status, and geographic region. Fifty one schools, representing 33 states and all nine geographic regions in the United States, participated in the standardization program. There was a total of 1905 boys and 1898 girls, or 3803 children in all. Table 12 (see p. 100) shows the composition of the total norm population in terms of the five variables listed above. Communities with a population of 2500 or higher were designated as urban; those with a population of less than 2500 were designated as rural. Socioeconomic status was determined on the basis of school reports of the occupation of the male parent. Data from the national norm group were used in the computation of percentile norms and tables of these norms for each of the following six combinations of grade and sex:

(1) 4th grade boys
(2) 4th grade girls
(3) 5th grade boys

Table 12

Composition of the Total Norm Group

Variable	No.	Percent
Total	3803	100
Sex		
Boys	1905	50
Girls	1898	50
Grade in School		
Grade 4	1146	30
Grade 5	1274	34
Grade 6	1383	36
Urban-rural status		
Urban	2580	68
Rural	1223	32
Geographic region		
New England	428	11
Middle Atlantic	569	15
South Atlantic	136	4
East North Central	782	20
East South Central	80	2
West North Central	300	8
West South Central	598	16
Mountain	466	12
Pacific	444	12
Fathers' occupations (by U.S.E.S. code)		
0 - Professional, Managerial	673	18
1 - Clerical, Sales	383	10
2 - Protective, Domestic, Personal Service	170	4
3 - Agricultural, Fishery, Forestry	371	10
4-5 - Skilled occupations	835	22
6-7 - Semi-skilled occupations	507	13
8-9 - Unskilled occupations	227	6
Unclassified, unemployed, deceased	637	17

(in SRA Examiner Manual, 1954: 12)

(4) 5th grade girls
(5) 6th grade boys
(6) 6th grade girls
(in SRA Examiner Manual, 1954: 12).

The tables suggest several noteworthy developmental trends between grade 4 (median age 9.9) and grade 6 (median age 11.9), and indicate some significant differences between the interest patterns of boys and girls.

A sample of 800 children (402 boys and 398 girls) from the total norm group was selected for an analysis of the reliability of each of the eight interest scores for boys and girls in each grade from 4 through 7. This sample was selected from 25 of the 51 schools, and represented both geographic region and urban-rural status in proportions equal to those of the 1950 national population figures. Coefficients of reliability were computed by the Kuder Richardson formula (Case IV) which, according to the Manual, tends to underestimate the true reliabilities. Table 13 (see p. 102) contains a summary of the data for each of the eight combinations of grade and sex.

Like all interest inventories, What I Like To Do has poor predictive validity. Interests, particularly those of children in the upper elementary grades, shift rapidly. However, observations of a child's current activity choices should correlate highly with his or her interest scores on the inventory.

C. Sample and Administration of the Inventory

A list of all the public elementary schools in the city of Edmonton was compiled. From this list a random sample of eight schools was obtained and the standardized inventory was administered to one complete grade 5 class in each school. The classes participating in the study

Table 13

Reliabilities of the Eight Interest Scores

Sex	Boys (N=402)				Girls (N=398)			
Grade	4	5	6	7	4	5	6	7
Area N	114	124	126	38	126	122	116	34
Art	.782	.792	.819	.761	.715	.702	.708	.778
Music	.866	.873	.858	.843	.823	.838	.853	.798
Social Studies	.928	.909	.923	.901	.916	.894	.899	.916
Active Play	.864	.843	.851	.787	.881	.830	.836	.853
Quiet Play	.873	.831	.836	.856	.856	.817	.809	.804
Manual Arts	.905	.889	.880	.908	.900	.871	.818	.786
Home Arts	.910	.882	.876	.860	.896	.899	.880	.800
Science	.972	.966	.969	.953	.966	.965	.956	.960

(in SRA Examiner Manual, 1954: 12)

were "normal" classrooms; in other words, the classes were not special classrooms for the gifted, slow learners, or the learning disabled. The inventory response forms were divided according to sex, for comparative purposes. A number of response forms (7 to be exact) were withdrawn from the sample because the age of the respondents fell outside the limits as indicated below. Finally, 191 students (102 boys and 89 girls) were included in the study. The factors held constant were:

(1) grade level - the study included only children at the grade 5 level;
(2) chronological age - only children between the ages of 9.9 and 11.9 years of age were included (median age 10.9);
(3) urban designation - only children attending school in the city of Edmonton were included;
(4) schools - only children attending schools under the jurisdiction of the Edmonton Public School Board were included.

Because of the varying reading levels of the various students it was deemed advisable to read the inventory items orally, as the students

followed in their booklets and filled in their response forms. This procedure is in accord with the stipulations of the SRA Examiner Manual. This also prevented certain students from lagging behind and spending too much time determining their responses. Students were allowed to ask the meaning of any item they did not understand.

D. Treatment of Data

Because of the rather high intercorrelations among the eight interest areas, a multivariate statistical analysis was carried out using Hotelling T^2 to test for an overall significant difference. Such a test protects against the effects of positive correlations among the interest areas as well as the tendency for individual differences to be significant by chance. Eight studentized t tests were subsequently carried out to test for significant differences between the eight pairs of means, with the significance level set at .05. Frequencies and percentages of male and female responses to all the items were determined. These data were used descriptively in order to present the results of the study in such a form that a maximum amount of useful and interesting information concerning differences and commonalities in boys' and girls' interests would be communicated to the reader.

CHAPTER V

RESULTS AND DISCUSSION

This chapter consists of the presentation and discussion of the findings arising from the study of children's interests.

A. Results

Table 14 presents the means and standard deviations for boys, for girls, and for the total sample in each area, as well as the grand means for the two groups and for the total sample.

Table 14

Means and Standard Deviations for the Eight Interest Areas

Area	Boys (N=102)		Girls (N=89)		Total Sample (N=191)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Art	14.7	5.8	16.9	5.0	15.8	5.6
Music	10.2	6.0	12.3	5.9	11.2	6.1
Social Studies	22.7	11.4	21.9	8.9	22.3	10.3
Active Play	27.4	6.7	25.1	7.4	26.3	7.1
Quiet Play	17.6	7.2	17.5	6.9	17.5	7.0
Manual Arts	15.1	7.0	12.8	5.9	14.1	6.6
Home Arts	12.4	7.1	16.8	7.2	14.4	7.4
Science	35.7	18.3	33.1	14.5	34.5	16.7
Grand Mean	19.49		19.57		19.5	

Table 15 reveals the results of the Hotelling's T test. An overall significant difference (p=.000001) was established.

Table 15

Results of Hotelling's T Test

T^2 = 1932.88	DF1 = 7	DF2 = 183	F-Ratio = 267.36	P = .000001

The results of the studentized t tests for significant differences between the means of boys and girls in each of the eight interest areas

as described in the SRA Examiner Manual (1954) are outlined in Table 16.

Table 16

Results of Studentized T Tests

Area	DF	T	P - One Tail	P - Two Tail
Art	189	3.011	0.00148	0.00296
Music	189	2.421	0.00821	0.01641
Social Studies	189	-0.539	0.29513	0.59027
Active Play	189	-2.318	0.01076	0.02151
Quiet Play	189	-0.117	0.45352	0.90704
Manual Arts	189	-2.492	0.00678	0.01355
Home Arts	189	4.328	0.00001	0.00003
Science	189	-0.889	0.18757	0.37514

Figure 3 (see p. 106) is a graphic profile of the means of boys and girls in the eight interest areas.

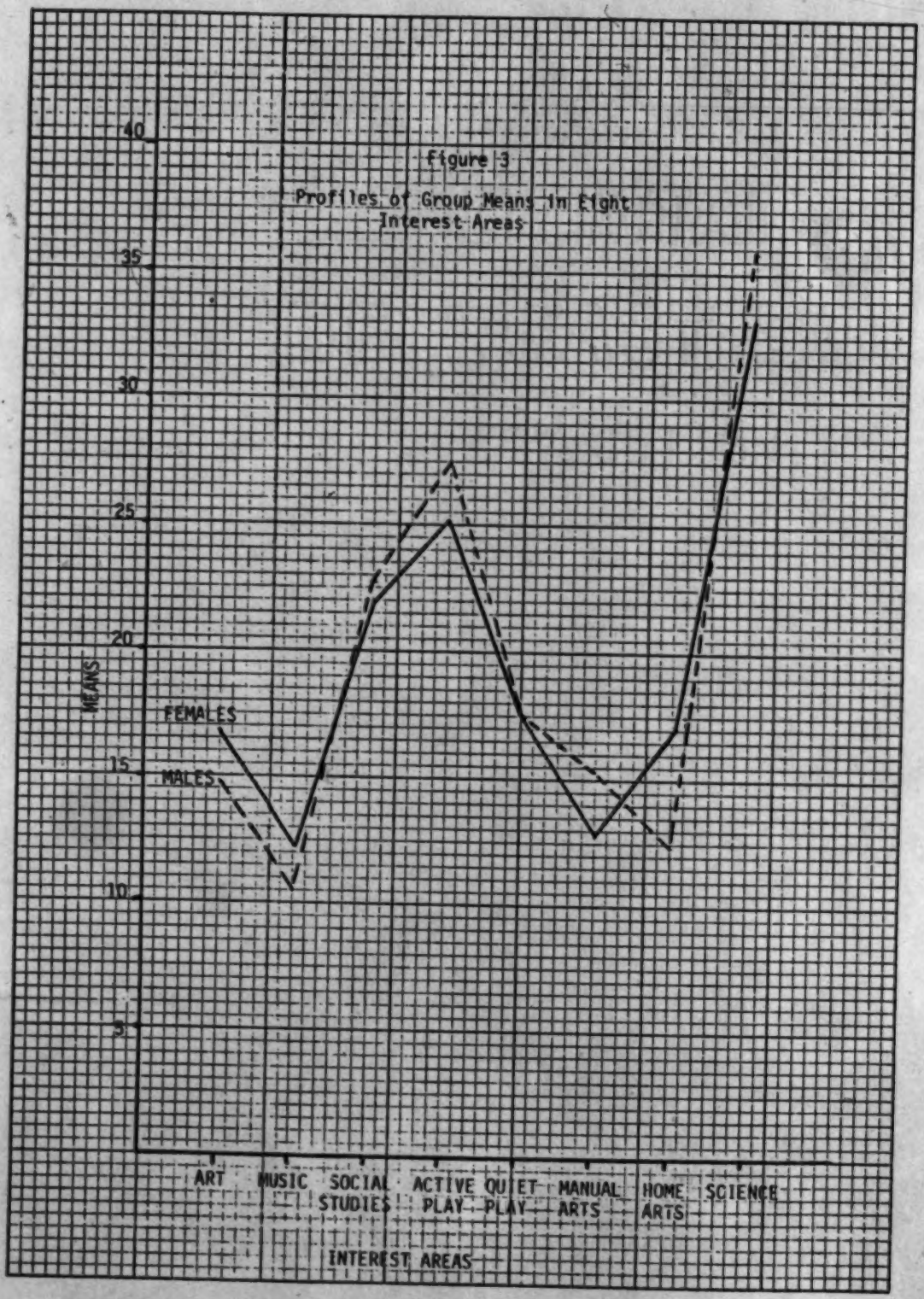
The questions which this study dealt with can now be answered as follows:

(1) Do boys and girls at the grade 5 level differ significantly in their interests according to sex? Yes, a significant overall difference ($p = .000001$) was established.

(2) If there is a significant difference in boys' and girls interests, in what areas are these differences most outstanding? As indicated in Table 16, significant differences were established between the means of boys and girls in five interest areas: art, music, active play, manual arts, and home arts. In Table 16, differences in favor of the boys are preceded by a negative sign; differences in favor of the girls are not preceded by any sign. As indicated in Table 16, a significant difference in favor of the girls occurred in the areas of art, music,

Figure 3

Profiles of Group Means in Eight Interest Areas



and home arts, and in favor of the boys in the areas of active play and manual arts. The differences in the areas of social studies, quiet play, and science were also in favor of the boys, although these differences were not significant.

It is difficult to give the reasons for this pattern of differences. Superficially, they seem to follow the traditional patterns of so-called "masculine" and "feminine" interests: females are more interested in musical, artistic, and literary activities, and the home arts, while males are more interested in mechanical and scientific activities, in legal, political, and military occupations, in outside activities, manual arts, and active games (see pp. 75-78). However, there are discrepancies. Science has long been described as a "masculine" field, and it is commonly agreed that girls prefer quiet play. But the results indicate only a minimal difference between boys and girls in these areas. Social studies, in our school systems, generally implies such things as history, government, national and international politics, explorations, legalities, and related subjects, which are supposed to appeal more to males than females. Here again, in the present study, the difference between the means of boys and girls in this area was insignificant.

In the writer's view, these discrepancies are due mainly to the particular format of the interest inventory. The SRA Examiner Manual (1954) gives very little information concerning the method of selection of specific items included in the inventory. The writer suspects that items were balanced wherever possible, so that in each area there would be activities that were expected to appeal mainly to girls, some that were expected to appeal mainly to boys, and some

that were expected to have an equal appeal to both sexes. Intercorrelations between areas may also explain, at least in part, the occurrence of such discrepancies.

(3) Are there specific items within each interest area which are more or less significantly sex-typed than others? Yes, definitely. Tables 17 and 18 are of particular relevance to this question.

Table 17

Items Liked by at Least 25%
More Girls Than Boys
Throughout the Eight Interest Areas

	Boys (N=102)	Girls (N=89)
Item	% Yes Responses	% Yes Responses
make Christmas or birthday cards	34	65
design new clothes	26	65
sing in a church choir	18	43
take dancing lessons	8	40
play hopscotch or "sky blue"	1	36
play hide-and-seek	41	69
play jumping-rope games	11	52
weave baskets out of straw	35	69
make artificial flowers out of paper and wire	40	78
cut out and sew new clothes	21	61
wash or iron clothes	21	56
knit, crochet, or embroider	17	77
make hooked rugs	31	61
arrange flowers in a vase	25	58
bake cakes, pies, or cookies	61	94
take care of children	32	66
find out what makes the different colors in flowers	42	67

(4) What interests do boys and girls have in common? There are many differences; there are also many commonalities. These common interests are pointed out in Tables 19, 20, and 21. Table 19 lists activities throughout the eight interest areas that are very popular among both

Table 18

Items Liked by at Least 25%
More Boys Than Girls
Throughout the Eight Interest Areas

	Boys (N=102)	Girls (N=89)
Item	% Yes Responses	% Yes Responses
learn how the Northwest Territories became part of Canada	58	33
learn about our Canadian heroes	70	42
learn what the United Nations is doing	48	21
go hunting	82	35
flip jackknives	79	41
play hockey	80	38
play football	87	61
box or wrestle	79	27
shoot targets with a bow and arrow or a BB gun	94	53
collect pictures - such as baseball players or airplanes	68	21
listen to sports on the radio or watch sports on TV	71	26
play with a model train	68	25
build things with an "Erector Set"	77	40
build model trains	77	24
build a soap-box car	77	47
fix a motor so that it runs better	83	22
make model airplanes or model boats	88	29
build a radio set	86	41
find out how rockets are built	81	31
learn about what makes a jet airplane go	76	32
learn how an automobile motor works	66	30

boys and girls at this age level. These activities are not sex-typed and both sexes find them highly interesting and enjoyable. Table 20 lists activities that only a small percentage of either sex find enjoyable. Some of these activities (e.g. playing cowboys, spacemen, or cops and robbers, playing "dress up", playing house or school, playing with paper dolls), the writer suspects, are more appropriate for younger children than the subjects in the present sample. Others

Table 19

Items Liked by 75% or More
Of Both Sexes
Throughout the Eight Interest Areas

Item	Boys (N=102) % Yes Responses	Girls (N=89) % Yes Responses
see the different kinds of money used all over the world	90	90
go on hikes	92	93
go camping	96	95
ride horseback	92	97
take pictures with a camera	85	92
design posters	82	81
model things out of clay	81	86
visit a prison to see how it is run	75	75
play baseball	89	78
play tennis	82	88
go swimming	87	95
play volleyball	81	86
walk on stilts	81	78
roller skate	79	83
explore caves	92	78
play ping-pong	75	81
ice skate	85	89
play table games like "Monopoly"	78	78
play card games	75	78
take care of a pet animal	89	98
go to movies	89	94
arrange the furniture in your room in an attractive way	76	86
make candy or ice cream	88	90
find out about the inside of a volcano	78	77
find out about the kinds of animals that lived thousands of years ago	81	76

(i.e. listening to opera or symphony music, attending an opera, dancing in a ballet, etc.) are rather mature and specialized activities with which many children at this age level are totally unfamiliar. Table 21 lists items chosen by approximately half of either sex, throughout the eight

Table 20

Items Liked by 25% or Less
of Both Sexes
Throughout the Eight Interest Areas

	Boys (N=102)	Girls (N=89)
Item	% Yes Responses	% Yes Responses
read about the lives of great artists	21	23
read about famous paintings	22	12
listen to opera music	13	11
listen to talks on music	22	14
dance in a ballet	2	22
listen to symphony music on the radio or TV	21	16
go to an opera	13	16
play cowboys, or spacemen, or cops and robbers	25	14
play follow-the-leader	16	14
do marching	16	13
play "dress up"	12	21
play house or play school	3	20
play with paper dolls	3	11

interest areas. These activities are not sex-typed and have only a mediocre appeal for either group.

A general question posed at the outset of this paper was: are the effects of liberation reaching children at all levels of society? It is interesting to note the similarities between the means and standard deviations of the present study and those of the Maywood tryout (SRA Examiner Manual, 1954: 11) as outlined in Table 22. Since the present study was not intended to duplicate the earlier study, a statistical comparison is not available. Therefore, although the present study does indicate that great differences between boys' and girls' interests continue to exist, it is not possible to say whether these differences are less pronounced than prior to the event of liberation movements. Perhaps a duplication of the present study in twenty years time would come closer to suggesting an answer.

Table 21

Items Liked by Approximately Half of Either Sex Throughout the Eight Interest Areas

Item	Boys (N=102) % Yes Responses	Girls (N=89) % Yes Responses
play in a band	51	52
play an instrument in a musical program	53	52
find out why we have a limit to the number of people who may come from other countries to live in Canada	52	50
hear about the kind of government the Canadian Indians had before the white people came	51	52
make book shelves	53	51
learn why you get a shock if you touch bare electric wires	55	54
read about how men first discovered that the earth is round	54	52
learn what has to be done to control insects that spread disease	53	53
learn about the different kinds of birds that live in the hot climates of Brazil, Africa, and the Pacific islands	54	55
cut out and make things out of tin cans	46	45
visit your parents' friends	46	48
play cards by yourself	47	47
find out how our province is different from other provinces in this country	48	48
hear a talk on how your city and province take care of the people who can't work to earn their own living	45	48
make up a song or a tune	46	49
mix paints to make different colors	46	47

At any rate, it is rather a hypothetical question. Of a more practical nature, will the 2% of boys who indicated an interest in ballet dancing be allowed and even encouraged to develop this interest if such be their desire? Will the 22% of girls who are interested in fixing motors be given the opportunity to carry on this kind of activity? Or

Table 22

Means and Standard Deviations
of Present 1976 Study
And Means and Standard Deviations
of 1954 Maywood Tryout Study

Area	Boys				Girls			
	1954 (N=67)		1976 (N=102)		1954 (N=78)		1976 (N=89)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Art	13.1	6.5	14.7	5.8	17.3	4.8	16.9	5.0
Music	10.6	6.1	10.2	6.0	17.2	11.7	12.3	5.9
Social Studies	26.2	10.5	22.7	11.4	23.6	10.2	21.9	8.9
Active Play	28.2	6.8	27.4	6.7	24.6	6.6	25.1	7.4
Quiet Play	19.1	6.8	17.6	7.2	19.8	6.4	17.5	6.9
Manual Arts	15.2	6.4	15.1	7.0	12.0	6.3	12.8	5.9
Home Arts	12.7	8.6	12.4	7.1	20.1	5.6	16.8	7.2
Science	43.6	17.8	35.7	18.3	37.1	16.3	33.1	14.5

will they be discouraged from doing so, because such interests are not really "masculine" or "feminine", and therefore not appropriate for that particular sex? Such are the very practical issues which really indicate just what the effects of liberation ideologies have been or will be.

B. Discussion

Data will be discussed under topical headings corresponding to the eight interest areas covered by the inventory. Although the inclusion of specific items in one area rather than another appears to be quite arbitrary at times, these divisions are useful for purposes of analysis and discussion. The data discussed are the result of an analysis of boys' and girls' "yes" responses to individual items in the various areas. "Indifferent" and "no" responses are not usually included in the analysis and resulting discussion. A complete list of all responses is located in Appendix 2. Perusal of this list will reveal many interesting aspects of interests among children at this age level (i.e. 9.9-11.9).

Art

The great majority of both boys and girls were interested in photography, modelling objects, and designing posters. Seventy-five percent or more of either group indicated interest in these activities. A high percentage of boys were also interested in carving things out of wood. A minority of both groups (25% or less) were interested in reading about famous paintings and the lives of great artists. Few boys were interested in making pictures with crayons, and few girls liked to make maps. Percentages of responses to other items varied between these two extremes.

Music

Over 75% of girls indicated interest in listening to popular music and learning to play a musical instrument. These also proved to be the favorite activities of boys in the area of music, although the percentages were less (67% and 66% respectively). Very low interest activities for both boys and girls included dancing in a ballet, listening to talks on music, listening to opera or symphony music, and going to an opera. The lowest rated activity among boys was dancing in a ballet, although 2% did indicate interest. Very few boys were interested in singing in a church choir, taking singing lessons, seeing a ballet, or reciting poems with a group. Very few girls were interested in reading about great musicians. Perhaps if there were more female models in the history of great music, this activity might prove to be attractive to more girls. There has been much controversy concerning the reasons for this dearth of female greatness in music, or in any of the other arts for that matter. At one time it was widely accepted that the lack was due to an inherent inferiority in the female sex. Today, the general consensus is

that women were never given the opportunity or the freedom to excel in music or the other arts.

Social Studies

A high percentage of both boys and girls were interested in seeing the different kinds of money used all over the world and in visiting a prison to see how it is run. The great majority of boys would like to see a display of ancient weapons and to learn about the building of the pyramids. On the other hand, most girls were interested in hearing about how people entertained themselves before the advent of radio, TV, and movies, and in learning what can be done to help sick people without any family.

Less than 25% of girls indicated interest in the work of city and national governments or the United Nations. The least preferred activity for boys was hearing a talk on what happens to a letter from the time it is put in the mailbox until it is delivered. Only 29% of boys indicated interest in this item. The greatest discrepancy between groups concerned interest in the work of the United Nations (48% versus 21% in favor of the boys). Among adults, international politics is considered to be mainly the domain of males. Perhaps these children are already reflecting this superficial stereotype of their elders. Parsons' distinction between female "expressiveness" (interest in persons, their values, attitudes, feelings) and male "instrumentalism" (interest in things, their uses and functioning) seems to be particularly relevant at this point. It is interesting to note that 70% of boys as compared to 42% of girls are interested in learning about our Canadian heroes. Perhaps if heroic Canadian women (who have existed) were given more prominence in social studies classes, history texts, and library books, girls would show considerably more interest in such an activity.

Active Play

Most boys and girls at this age level highly enjoy riding horseback, bike riding, swimming, camping, hiking, walking on stilts, exploring caves, ice and roller skating. Games like ping-pong, tennis, volleyball, and baseball are very interesting activities for both sexes. Whereas boys enjoy hockey, football, basketball, and "catch", girls prefer kickball or dodge ball. The great majority of boys are also interested in hunting, fishing, shooting or throwing at a target, flipping jackknives, and boxing or wrestling. Among the girls, 35% indicated interest in hunting and 41% indicated interest in fishing. Over half the girls said they liked shooting or throwing at a target, and 41% liked flipping jackknives. The greatest range of interests between the two groups was in boxing or wrestling (79% as compared to 27% in favor of boys). Very few boys or girls indicated interest in marching, playing follow-the-leader, or games like cowboys, spacemen, or cops and robbers. It may be that these children have outgrown such activities. Folk dancing, jumping-rope, and playing hopscotch were also chosen by very few boys.

Quiet Play

The great majority of both groups indicated interest in caring for a pet, going to movies, and playing table and card games. Very many boys also liked belonging to a club and building things with an "Erector Set". Very many girls were interested in collecting stamps or coins and working crossword puzzles.

Very few children of either sex were interested in playing with paper dolls, playing house or school, and playing "dress up". It is interesting to note that 12% of boys said they liked playing "dress up"

and 12% more claimed indifference rather than a definite "no". Three percent of the boys said they liked playing house or school and 7% more claimed indifference. Three percent of boys also indicated interest in playing with paper dolls. Rekers and Lovaas (1974) would find some clients for their program among these boys. Very few boys liked reading or writing poems, and very few girls liked playing with a model train. Whereas the great majority of girls (76%) liked collecting stamps or coins, very few were interested in collecting pictures of such things as baseball players or airplanes (21%). The greatest discrepancy of interests between boys and girls occurred on this item (68% of boys as compared to 21% of girls). Perhaps if different examples had been suggested a greater interest among girls would have been indicated.

It is noteworthy that 71% of girls liked listening to stories on radio or watching stories on TV, as compared to 47% of boys who liked this activity. On the other hand, 71% of boys liked listening to sports on the radio or watching sports on TV, as compared to 25% of girls. One possible explanation for this difference is that girls are more interested in stories than sports because of the almost total absence of sports with female participants broadcast or telecast on a regular basis. Possibly, if this became a regular feature like sports with male participants, the difference of interest in such an activity would be much less.

Manual Arts

There were very few common interests between boys and girls in the area of manual arts. The great majority of boys liked building model airplanes, boats, and trains, building radio sets, soap-box cars, and bird houses. Most girls preferred leather work, and making flowers and jewellery. Very low interest items for girls included fixing a motor or

broken toys, and building model trains. However, over 20% of girls did indicate interest in these activities. Fixing a motor was chosen by 83% of boys and by 22% of girls. This is where the greatest discrepancy of interests between groups occurred - a discrepancy of 61%. Interestingly enough, there was no particular activity in the area of manual arts that was liked by less than 25% of boys. The lowest rating activity was cutting out jigsaw puzzles; only 32% of boys indicated interest in this activity.

Home Arts

The most preferred activities for boys were making candy or ice cream, and arranging the furniture in their room. Girls enjoyed these activities also, along with baking, choosing new paint or wallpaper for their room, painting walls, floors, or furniture, buying things for the house, and knitting, crocheting, and embroidering. Not many boys enjoyed knitting, crocheting, or embroidering. This is where the greatest discrepancy in interests occurred in the area of home arts (77% of girls as compared to 17% of boys). Nor did many boys enjoy washing, ironing, or mending, helping with house cleaning, cutting out and sewing new clothes, cleaning a fish bowl or a bird cage, or arranging flowers in a vase. A very low interest item for girls was polishing shoes.

Science

It should be pointed out here that two items (#235 and #248) from the science area were randomly selected and omitted from the analysis of data. This was done for the sake of expediency, since the computer scoring program used would not cover more than 60 items per subtest and the science area had a total of 62 items.

Very high interest items for both boys and girls included finding out about the kinds of animals that lived on the earth long ago and finding out about the inside of a volcano. Very many girls also indicated interest in finding out what causes the colors in a rainbow and watching young birds learn to fly. Most boys were also interested in the mechanics of jet airplances and rockets. The widest range of interests between boys and girls in the area of science was in finding out how rockets are built (81% of boys as compared to 31% of girls). There was no specific item in this area which interested less than 25% of boys or of girls.

CHAPTER VI

IMPLICATIONS, RECOMMENDATIONS, CONCLUSION

This chapter will discuss the implications of the present study, make recommendations for further research, and draw a conclusion to the paper.

A. Implications

The area of interests is just one of the many issues that require re-evaluation and re-examination in the light of liberation ideologies and current advances in the social sciences. The present study has pointed out various commonalities and differences in the interests of boys and girls at the grade 5 level in 1976. Interests were studied mainly to determine what they could tell us about children's concepts of their masculine or feminine sex roles, and not for purposes of curriculum development or educational strategies. However, certain implications for education do arise. These will be presented in the following paragraphs.

Parents are the initiators of the process which leads to the development of appropriate sex role behavior and, more specifically, of sex-typed interests. They accomplish this through sex-differentiated treatment and sex-role differentiation, i.e. their mental images and expectancies of which traits, behaviors, activities, experiences, interests, etc. are appropriate for one sex or the other. The following statement, although referring to the overall concepts of the child's individual and educational development, reflects the very subtle processes by which parents of a child emphasize its femininity or masculinity, and their consequent expectations:

> The newborn child is experienced by the mother and the father, not as a biological representative of the species Homo sapiens but as 'our child', born into our particular family at a particular point in time and thus dependent on us for a long time to come. Into their spontaneous care for the child, there enters almost imperceptibly the specific educational concern for the child: the desire to let the child become a certain kind of person. Some spontaneous tendencies of the child are encouraged, others are checked, forbidden, or simply eliminated by paying no attention to them. It is not simply by interacting with the child but by the specific educational intent of many of the adults' actions in relation to the child that the child's potentialities as an individual person are actualized (Schmidt, in Jeffery, 1973: 52).

In our society, children learn early whether they are male or female. When the doctor says "it's a girl", the parents' dreams begin. As they cradle the little pink bundle, they usually see her as a future wife and mother. Few parents immediately think of a baby son's future as a husband and father. Little Boy Blue will be an architect, an important business executive, a lawyer, a rancher, a priest.

Right from infancy, the boy child is treated differently than the girl child. His father handles him less gently, his mother responds less readily when he cries and fusses. Quite early, he learns that boys don't cry, boys don't play with dolls and dishes, boys are allowed to be noisy and messy and disobedient more than girls. He is called upon to be a "big boy" while his female counterpart is still allowed to be a "little girl". According to de Beauvoir (1956), if a boy seems at first to be less favored than a girl, it is because greater things are in store for him. The greater demands upon him imply a higher evaluation.

A little girl first appears to be a privileged being. Her mother kisses her and cuddles her more frequently, her father handles her more gently than they would a boy. She is often dressed in pretty clothes and great care is taken to keep her neat and clean. Her tears and tantrums are viewed indulgently. Adults smile and encourage her coquetry and little impertinences. Nursery books that her parents read to her, the television programs and commercials, the majority of live models around her, tell the female child what females are like and what they do. Females are mothers. Mothers care for children. Females are nurses. Nurses are helpers; they help doctors who are men. Females are weaker, more dependent, more passive, more cowardly, more emotional than males. Females are not as smart as males, because it is the males who apparently make discoveries, make important decisions, make money.

Thus, sex-differentiated interests get their start, and they are constantly reinforced throughout early childhood, school years, and adult life. In spite of many common interests, great differences do exist - it cannot be denied. Many researchers and theorists, confronted with such differences, seem to conclude: "this is the way it is; therefore, this is the way it is supposed to be. Vive la difference!" Freud (1925), Scheinfeld (1943), Sarhan (1950), and Tiger (1969) have promoted this fallacy in the area of sex differences. Sarhan (1950) and others, as was discussed earlier (see pp. 84-86) have advocated catering to differential interests by sexual segregation in classrooms or instructional grouping according to sex.

Rather than expending all their time, effort, and money catering to majority and group interests, educators would do well to look more

closely at minority and individual interests. They should ask themselves: how did Peter and Mary learn to enjoy listening to symphony music?; how did Paul develop an interest in ballet dancing?; how did Ann develop such a mechanical interest? Perhaps if more children were given the experience and the chance to experiment with unfamiliar, different, and sexually "inappropriate" activities and pastimes and hobbies, more varied and wider-ranging individual interests would develop.

It is often forgotten that averages are not totalities. Catering to group differences often tends to make one forget the even greater individual differences that exist. Let us remember the 22% of females who indicate an interest in fixing motors and the 12% of females who enjoy reading about famous paintings. Let us also remember - for purposes other than treatment - the 2% of males who are interested in ballet dancing and the 12% of males who enjoy playing "dress up". It is quite probable that at least some of our great actors, our great writers, our great artists and musicians, our great scientists and inventors and teachers of the future will arise from the minority of individuals of both sexes indicating interest in these "low interest" areas.

However, genius does not occur in large numbers. The great majority of today's children, it is hoped, will be given the freedom and the opportunity to develop their interests, whatever these might be. It is further hoped that opportunities to develop other interests in a wide variety of areas, regardless of their traditional designation as "masculine" or "feminine", will also be provided. Such freedom in the area of interests is but one of the vast number of changes

which must be made in present society if these children are to live their adult lives as autonomous, happy individuals, fulfilling their potentialities as human beings, free from the rigid stereotypes of outdated "masculine" and "feminine" sex roles.

B. Recommendations

The new society outlined above is perhaps a rather utopian model which certainly will not be established in the very near future. Change is inevitable, but it will be the result, not of a sudden revolution, but of a very gradual evolution in the thoughts, attitudes, beliefs, and values of a vast number of people, lay and professional alike. It is in the view of promoting this evolution that the following recommendations are made:

(1) It is recommended that extensive research in the area of physical and psychological sex differences be carried out in order to determine more precisely the influences of biology and culture in the development of such differences.
(2) It is recommended that extensive research into the socialization practices existent in our society be carried out in order that the various institutions and individuals playing a major role in our society be made aware of the unhealthy consequences of sexism and sex role stereotyping.
(3) It is recommended that extensive research in the area of children's interests be carried out in order to promote a better understanding of individual differences in this area.

C. Conclusion

The cult of group differences has led to some tragic aberrations in the history of the human race: slavery, the caste system in India, the Spanish Inquisition, attempted genocide of Jews, racial

discrimination and prejudice against various ethnic minorities. More pertinent to the present discussion, it has resulted in sexism and sex role stereotyping. As it was stated at the outset of this paper, over-emphasis or misplaced emphasis on sex roles, on appropriate "masculine" and "feminine" behavior, causes many people to sacrifice their human potentiality in order to maintain their "masculinity" or their "femininity".

This paper has called for liberation on the level of self-determination. It has emphasized androgyny or "unisex" - that is, "the end of separatist character-structure, temperament and behavior, so that each individual may develop an entire - rather than a partial, limited, and conformist - personality" (Millett, 1969: 288). It has recognized the fact that the heritage and experience of women is as rich as the heritage and experience of men. It has rejected two current assumptions: first, that women and men are basically different and ought to retain this difference; and second, that present social organization and the present life style of men are the most desirable. It has envisioned a new society in which the sexes will live similar lives, but lives which are drastically different from the ones either lives now.

Cohen's statement bears repeating: it has been the underlying thesis of the present paper:

> There is a considerable incompatibility between many people's sense of identity as persons and as sexual beings, or, to put it another way, between society's traditional definition of the person's sexual role and the optimal development of his assets as a person (Cohen, 1966: 79).

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APPENDIX I

Changes in Items

Original wording

68. Hear about how our lakes and mountains and plains help to make the United States a rich country

71. Hear a talk on how your city and state take care of the people who cannot work to earn their own living

73. Learn how holidays like Labor Day, Independence Day, and Memorial Day got started

74. Learn about the difference between a king and a president

79. Find out why we have a limit to the number of people who may come from other countries to live in the United States

83. Learn how Alaska and Hawaii became part of the United States

91. Hear about the kind of government the American Indians had before the white people came

93. Find out what is against the law in some states but not against the law in other states

95. Find out how American schools are different from the schools in Europe

97. Learn about our American heroes

98. Find out how our state is different from other states in this country

102. Study maps to see which state has the most wheat, cattle, or fruit

251. Learn how the United States Weather Bureau can tell what the weather will be like tomorrow

Revised wording

Substitutions

68. Hear about how our lakes and mountains and plains help to make Canada a rich country

71. Hear a talk on how your city and province take care of the people who cannot work to earn their own living

73. Learn how the holidays like Labor Day, Remembrance Day, and Commonwealth Day got started

74. Learn about the difference between a king and a prime minister

79. Find out why we have a limit to the number of people who may come from other countries to live in Canada

83. Learn how the Northwest Territories became part of Canada

91. Hear about the kind of government the Canadian Indians had before the white people came

93. Find out what is against the law in some provinces but not against the law in other provinces

95. Find out how Canadian schools are different from the schools in Europe

97. Learn about our Canadian heroes

98. Find out how our province is different from other provinces in this country

102. Study maps to see which province has the most wheat, cattle, or fruit

Deletion

251. Learn how the Weather Bureau can tell what the weather will be like tomorrow

Omissions

235. Hear a talk on how whales are caught and what is done with them

248. Learn about the way different animals find and store their food, locate shelter, and prepare for winter

APPENDIX 2

Percentages of Male and Female Responses to Each Item*

		Males (N=102)			Females (N=89)		
		Yes	?	No	Yes	?	No
1.	make pictures with crayons	25	38	39	31	36	34
2.	carve things out of wood	78	16	7	69	23	9
3.	draw unusual designs	63	24	14	66	21	13
4.	look at famous paintings	29	34	39	36	34	31
5	make designs with pieces of colored felt	45	32	25	59	27	15
6.	make a picture by brushing paint through a screen	52	20	29	58	25	18
7.	go to see an art exhibit	38	35	29	47	31	24
8.	carve things out of soap	59	24	18	70	22	9
9.	make maps	43	28	31	24	38	40
10.	make Christmas and birthday cards	34	46	22	65	26	11
11.	decorate the bulletin board	47	33	22	63	29	9
12.	make artificial fruit out of wax	49	24	29	71	17	13
13.	take pictures with a camera	85	12	4	92	8	2
14.	make a scrapbook of pictures you like	57	30	14	56	31	15
15.	draw cartoons	67	19	15	65	26	11
16.	print with carved linoleum or wood blocks	47	31	24	42	25	34
17.	read about the lives of great artists	21	27	53	23	29	50
18.	model things with paper pulp and glue (papier mache)	62	25	14	75	20	7
19.	do finger painting	42	31	29	59	27	15
20.	read about famous paintings	22	29	50	12	32	58
21.	make party decorations - such as lanterns and placecards	49	35	18	67	29	6
22.	trace stencils to make pictures	54	33	14	66	24	12
23.	design posters	82	11	8	81	14	6
24.	paint designs on clothing - such as ties, or scarves, or aprons	44	24	34	59	26	16
25.	model things out of clay	81	16	4	86	11	5
26.	paint pictures with water colors	40	32	30	45	36	20
27.	paint designs on dishes and glasses	44	32	26	68	24	9
28.	mix paints to make different colors	46	35	21	47	40	15
29.	design new clothes	26	24	51	65	25	12
30.	make sketches with charcoal	59	18	24	57	25	20
31.	take singing lessons	17	17	67	35	22	44
32.	go to a concert	46	40	16	50	32	20
33.	play in an orchestra	32	17	52	29	26	47
34.	collect phonograph records	54	27	20	61	29	12
35.	learn new songs	42	35	25	62	26	13
36.	join a music club	34	19	49	41	32	29
37.	listen to opera music	13	15	73	11	25	66
38.	listen to talks on music	22	30	50	14	29	59
39.	play in a band	51	25	25	52	26	23

* Percentages do not always total exactly 100 because of rounding.

		Males (N=102)			Females (N=89)		
		Yes	?	No	Yes	?	No
40.	make up a song or a tune	46	28	28	49	38	15
41.	read about great musicians	27	24	50	18	31	52
42.	sing in a church choir	18	24	59	43	30	29
43.	listen to the music of other countries	55	22	24	58	32	12
44.	listen to organ music	40	31	31	45	35	21
45.	sing while you're working or playing	44	22	36	56	26	20
46.	dance in a ballet	2	1	98	22	21	59
47.	play an instrument in a musical program	53	25	23	52	31	18
48.	listen to symphony music on the radio or TV	21	19	61	16	26	59
49.	listen to popular music on the radio	67	17	17	85	12	5
50.	listen to someone else play a musical instrument	38	41	23	44	42	15
51.	see a ballet	8	18	75	33	29	40
52.	have a singing part in a music program	29	23	50	47	32	23
53.	see movies about singers and musicians	28	30	44	33	35	33
54.	recite a poem with a group	25	30	47	30	40	32
55.	go to an opera	13	15	73	16	26	59
56.	collect autographs of musicians and singers	56	23	22	66	22	14
57.	play a homemade instrument - such as a comb wrapped in tissue	31	31	40	36	41	24
58.	learn how to play a musical instrument	66	14	21	76	17	8
59.	take dancing lessons	8	12	81	40	26	35
60.	listen to a military band	51	27	23	30	35	36
61.	hear about life in the jungles of Africa and South America	63	24	14	58	33	11
62.	visit a prison to see how it is run	75	17	9	75	14	13
63.	learn how the pyramids were built without machinery	79	11	11	67	26	8
64.	hear a talk on what your city is doing to make it a better place in which to to live	50	29	23	45	32	24
65.	find out how we choose judges for our courts	51	30	20	44	36	21
66,	see the different kinds of money used all over the world	90	7	4	90	8	3
67.	learn why people have different talents	48	33	21	52	30	20
68.	hear about how our lakes and mountains and plains help to make Canada a rich country	57	29	15	47	39	16
69.	read the newspaper to see what is happening in other countries	43	34	25	35	41	25
70.	hear about homes people lived in thousands of years ago	74	19	8	74	17	11

		Males (N=102)			Females (N=89)		
		Yes	?	No	Yes	?	No
71.	hear a talk on how your city and province take care of the people who cannot work to earn their own living	45	28	29	48	36	17
72.	hear about the first boats that were made	63	23	15	42	39	21
73.	learn how holidays like Labor Day, Remembrance Day, and Commonwealth Day got started	59	33	9	68	22	12
74.	learn about the difference between a king and a prime minister	41	29	32	41	42	18
75.	hear about all the things we buy from other countries	51	34	16	40	38	24
76.	listen to news programs on the radio	39	30	33	32	26	43
77.	hear a talk on what happens to a letter from the time you put it in the mailbox until it is delivered	29	43	30	41	39	22
78.	learn about the different treaties we have made with other countries	44	34	24	27	41	33
79.	find out why we have a limit to the number of people who may come from other countries to live in Canada	52	27	22	50	31	21
80.	learn about the causes of a labor strike	42	24	36	30	36	35
81.	hear about how people entertained themselves before they had radio, television, and movies	58	26	17	80	16	5
82.	learn what makes the cost of food change from time to time	51	30	20	61	22	18
83.	learn how the Northwest Territories became part of Canada	58	23	20	33	42	26
84.	find out what the important people of our country are doing	41	38	23	49	29	24
85.	learn about different languages	57	22	22	72	18	11
86.	learn what can be done to help sick people who do not have any family to take care of them	55	24	22	78	17	6
87.	see a display of the weapons used many years ago - before guns and tanks and planes were invented	84	10	7	71	16	14
88.	find out how a person gets a job working for the government	38	33	31	33	43	25
89.	learn why our country prefers to have many companies making the same kind of thing, rather than just one company making all of them	46	35	21	22	44	35

		Males (N=102)			Females (N=89)		
		Yes	?	No	Yes	?	No
90.	find out why some people are almost always happy and others are almost always sad and gloomy	34	29	39	49	34	18
91.	hear about the kind of government the Canadian Indians had before the white people came	51	26	24	52	33	16
92.	learn about how people of all races and religions can get along better	39	32	31	47	35	20
93.	find out what is against the law in some provinces but not against the law in other provinces	63	23	15	70	14	17
94.	find out the differences between our city government and our national government	35	36	31	20	48	34
95.	find out how Canadian schools are different from the schools in Europe	46	25	31	62	20	20
96.	find out more about how people in China and India live	40	29	33	54	35	12
97.	learn about our Canadian heroes	70	18	13	42	39	21
98.	find out how our province is different from other provinces in this country	48	32	22	48	30	24
99.	learn more about what happens to money when you put it in the bank	66	21	14	70	21	11
100.	learn what the United Nations is doing	48	22	32	21	38	43
101.	hear about the way people traveled long distances before we had cars, steamboats, trains, and airplanes	59	31	11	68	25	8
102.	study maps to see which province has the most wheat, cattle, or fruit	45	29		35	35	31
103.	find out how people "bought" and "sold" things before there was money	65	23	13	67	23	12
104.	play baseball	89	3	9	78	12	12
105.	go hunting	82	5	14	35	31	35
106.	play cowboys, or spacemen, or cops and robbers	25	26	50	14	23	65
107.	play tennis	82	14	5	88	12	2
108.	go swimming	87	12	2	94	5	2
109.	play tug-of-war	66	28	7	49	30	23
110.	pitch horseshoes	57	36	8	41	30	31
111.	play kickball or dodge ball	70	19	12	80	20	2
112.	play follow-the-leader	16	22	63	14	27	60
113.	fly a kite	72	23	6	68	23	11
114.	flip jackknives	79	8	14	41	23	38
115.	go fishing	90	6	5	70	22	9
116.	play hockey	80	10	11	38	16	48
117.	play hopscotch or "sky blue"	1	17	83	36	33	32

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
118. play volleyball	81	15	5	86	12	4
119. walk on stilts	81	13	7	78	17	6
120. do folk dancing	16	19	66	27	34	40
121. play football	87	12	2	61	16	24
122. roller skate	79	12	10	83	15	4
123. play basketball	85	13	3	69	16	16
124. go on hikes	92	7	2	93	7	2
125. box or wrestle	79	13	9	27	16	58
126. do marching	16	25	60	13	27	61
127. go camping	96	3	2	95	3	4
128. ride horseback	92	5	4	97	3	2
129. do stunts on bars or on a mat	73	15	13	71	25	5
130. explore caves	92	5	4	78	13	11
131. play ping-pong	75	16	10	81	11	9
132. climb trees	87	10	4	74	17	11
133. shoot targets with a bow and arrow or a BB gun	94	2	5	53	22	26
134. go bike riding	92	8	1	97	3	2
135. build things out of snow	70	25	6	59	35	7
136. play tag	41	42	19	57	35	9
137. play hide-and-seek	41	32	19	69	23	9
138. do relay racing	70	17	14	68	21	13
139. go sledding in the snow	72	20	9	72	22	7
140. throw rocks or darts at a target	82	9	10	59	21	22
141. play catch	81	17	3	70	22	9
142. play jumping-rope games	11	25	65	52	30	20
143. ice skate	85	14	2	89	7	5
144. collect pictures - such as baseball players or airplanes	68	24	9	21	31	50
145. perform magic tricks	73	20	8	63	27	11
146. play table games like "Monopoly"	78	14	9	78	14	9
147. read poems	23	25	53	32	35	34
148. be in a play or a show	57	29	15	72	20	9
149. play checkers	62	22	17	58	27	16
150. play jacks or shoot marbles	49	30	23	52	32	17
151. write letters to your friends and relatives	50	28	24	66	24	12
152. belong to a club	75	17	9	61	30	11
153. listen to sports on the radio - or watch sports on TV	71	15	15	26	29	47
154. make up stories	54	32	15	56	26	20
155. play card games	75	18	8	78	18	5
156. play "dress up"	12	12	77	21	21	60
157. play house or play school	3	7	91	20	22	60
158. collect stamps or coins	71	23	7	76	21	5
159. play guessing games	50	25	26	59	34	8
160. play with a yo-yo	36	30	36	53	29	20
161. take care of a pet animal	89	9	3	98	3	0

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
162. read stories	48	33	21	50	35	16
163. do card tricks	74	17	10	65	22	15
164. play cards by yourself	47	24	31	47	31	24
165. play with a model train	68	17	16	25	22	54
166. work jigsaw puzzles	54	25	22	59	27	15
167. build things with an "Erector Set"	77	13	11	40	29	33
168. visit your parents' friends	46	34	22	48	33	21
169. play with paper dolls	3	0	98	11	22	69
170. listen to someone read stories	33	33	36	43	38	21
171. listen to stories on the radio - or watch stories on TV	47	24	31	71	20	11
172. go to movies	89	5	7	94	6	2
173. write poems	22	20	59	35	35	31
174. work crossword puzzles	60	25	16	75	13	14
175. make a scrapbook	40	29	33	43	33	25
176. go to the library	69	23	9	67	26	8
177. weave baskets out of straw	35	25	42	69	26	6
178. make things out of pipe cleaners	62	25	14	70	17	14
179. build model trains	77	14	10	24	18	59
180. fix broken furniture	53	32	16	29	27	45
181. build a soap-box car	77	12	12	47	24	31
182. run a printing press	55	21	25	42	32	27
183. make fancy house numbers	57	22	22	49	32	21
184. fix a motor so that it runs better	83	10	8	22	22	58
185. make model airplanes or model boats	88	9	4	29	21	52
186. build big toys - such as wagons and scooters	56	23	22	33	25	43
187. make book shelves	53	29	19	51	27	23
188. make things out of plastic	59	26	16	50	30	22
189. build a bird house	77	18	6	63	27	11
190. make puppets out of wood and cloth	42	34	26	62	23	16
191. grind and polish stones for jewellery	62	20	19	77	18	6
192. make lamp shades	40	33	29	52	33	16
193. make a piece of jewellery out of metal	53	19	29	66	23	13
194. make artificial flowers out of paper and wire	40	20	42	78	18	5
195. build scenery for a play	56	25	20	59	27	15
196. take apart and fix old clocks	66	16	19	39	23	40
197. make leather things - such as wallets or belts	73	16	12	81	15	5
198. hammer designs on copper trays or plates	52	30	19	61	21	20
199. cut out jigsaw puzzles	32	27	43	31	38	33
200. build a radio set	86	8	7	41	30	31
201. fix broken toys	49	20	33	25	31	45
202. cut out and make things out of tin cans	46	23	33	45	25	31

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
203. pick out new wallpaper or paint for your room	73	16	12	83	12	7
204. help plan meals for the family	46	29	27	62	27	12
205. plant and take care of a garden	54	21	26	63	30	8
206. wash windows	26	27	49	38	33	31
207. polish shoes	34	30	38	23	32	47
208. go shopping for groceries	41	29	32	59	26	16
209. help put up screens or storm windows	48	28	26	30	32	40
210. arrange the furniture in your room in an attractive way	76	12	13	86	12	4
211. set the dinner table in an attractive way	30	34	38	48	33	21
212. polish silver	35	28	39	33	33	35
213. paint walls, or a floor, or furniture	69	16	16	79	13	9
214. cut out and sew new clothes	21	18	62	61	21	20
215. make candy or ice cream	88	5	8	90	6	5
216. clean out a fish bowl or a bird cage	24	28	50	34	23	44
217. wash or iron clothes	21	18	62	56	24	22
218. wash the car	72	12	17	70	11	21
219. help with the house cleaning	21	21	59	41	27	33
220. help wash walls or clean wallpaper	31	24	47	31	38	33
221. mend clothes or sew on buttons	18	13	70	41	35	25
222. knit, crochet, or embroider	17	22	62	77	17	7
223. clean the basement, or the attic, or the garage	50	16	36	44	25	32
224. buy things for the house	53	23	25	77	20	5
225. make hooked rugs	31	24	47	61	24	16
226. arrange flowers in a vase	25	21	55	58	34	9
227. weave on a loom	34	21	47	54	29	18
228. clean cupboards and closets	26	18	57	41	27	33
229. bake cakes, pies, or cookies	61	20	20	94	6	2
230. take care of children	32	25	45	66	22	14
231. cut or rake the lawn	55	23	23	49	25	27
232. clean up your desk or chest-of-drawers	40	21	41	50	24	27
233. learn how fish take care of their young	62	15	24	53	25	23
234. see pictures of unusual kinds of fish	69	15	17	65	27	9
235. hear a talk on how whales are caught and what is done with them*						
236. watch the kinds of birds that are found in our part of the country	52	25	24	67	23	42

*Item 235 was omitted from the analysis of data (see pp. 125-126).

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
237. learn about the different kinds of birds that live in the hot climates of Brazil, Africa, and the Pacific Islands	55	19	27	54	22	25
238. watch young birds learn to fly	61	17	23	84	9	8
239. learn how homing pigeons are trained to find their way back after they have been taken hundreds of miles away from home	63	22	16	68	23	11
240. learn how plants get their "food"	46	21	35	50	32	20
241. learn about the plants and animals that live in the ocean	59	20	22	61	23	17
242. find out what makes the different colors in flowers	42	23	37	67	21	14
243. hear about the kind of soil necessary to grow healthy crops	45	31	26	39	36	26
244. learn about unusual plants - like the kind that fold up their leaves to catch insects, or the kind that have flowers only at night	62	19	20	74	20	8
245. hear about how crops can be improved so they will produce better food	67	19	15	36	32	33
246. watch animals teach their young how to find their food, and protect themselves in fights	72	13	16	68	17	16
247. find out how wild animals get along together even though some are stronger and more fierce	72	13	16	69	23	9
248. learn about the way different animals find and store their food, locate shelter, and prepare for winter*						
249. learn what has to be done to control insects that spread disease	53	25	23	53	31	17
250. watch ants to see how they work together and live together	57	21	23	43	24	34
251. learn how the Weather Bureau can tell what the weather will be like tomorrow	56	22	23	51	29	22
252. hear about the kinds of fire that can't be put out with water	66	15	20	71	20	11
253. find out about how stars shine in the daytime, even though we can't see them	57	18	26	61	22	18
254. learn about how the different planets were discovered	66	15	20	65	20	17
255. hear about how sailors use the stars to guide them across the ocean	67	17	17	50	30	22

* Item 248 was omitted from the analysis of data (see pp. 125-126).

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
256. find out why things look so different when you see them through water	54	25	22	56	29	17
257. learn why you get green if you mix yellow and blue colors	42	26	34	45	33	23
258. read about how 3-D movies are made	66	20	15	67	26	8
259. study about the North Pole where "nights" last for several months and "days" also last for several months	59	20	22	47	29	26
260. find out how rockets are built	81	12	8	31	29	42
261. find out why the moon and the earth never bump into each other	62	17	22	56	25	21
262. learn why the moon looks like a half-moon sometimes, and a full-moon at other times	52	23	26	47	33	22
263. hear a talk on how we can make metal soft enough to shape it into different things, and then strong enough for trains and buildings	55	26	20	42	35	24
264. find out about the basic differences between plastic and metal	42	35	25	29	34	39
265. find out about new ways to use plastic in place of metal or wood	61	21	19	38	42	22
266. find out how islands are formed	60	25	16	65	23	14
267. read about how men first discovered that the earth is round	54	26	21	52	23	26
268. find out about the inside of a volcano	78	12	11	77	20	5
269. find out why salt is so necessary for good health	59	21	21	62	29	11
270. learn why there are many storms in some parts of the world and few storms in other parts of the world	56	25	20	45	36	20
271. hear a talk on what causes an earthquake	72	17	12	69	24	8
272. read about why hearing-aids can't help all deaf people	49	27	26	56	30	16
273. find out why a bell, a fog-horn, a bomb, a gun, a whistle, and a piano all make different sounds	45	23	34	35	34	32
274. find out how a compass is made so that it always points in the same direction	62	19	20	53	25	23
275. learn why you get a shock if you touch bare electric wires	55	25	21	54	20	27
276. learn about what makes the electricity go off and on when you push a button on the wall	60	23	18	49	27	25
277. hear a talk on how a television picture is sent from the studio to a TV screen	63	20	18	65	24	13

	Males (N=102)			Females (N=89)		
	Yes	?	No	Yes	?	No
278. learn why there is thunder whenever there is lightning	65	18	18	67	21	14
279. learn what makes your voice carry over hundreds of miles of wires when you use a telephone	72	15	14	68	13	21
280. hear about how electricity is produced	54	27	20	38	34	30
281. find out why there is an echo if you say "Hello" in a cave but no echo if you say "Hello" out in a field	53	17	31	59	22	21
282. learn how the sound is put on a movie film	59	23	19	65	24	13
283. find out what causes the different colors in a rainbow	66	22	13	85	12	5
284. learn how technicolor movies are made	65	18	18	62	23	16
285. find out why field glasses or opera glasses make things look so big	54	18	29	42	33	26
286. learn about what makes a jet airplane go	76	13	12	32	34	35
287. learn about the inside of your body	61	18	22	67	23	12
288. find out about the kinds of animals that used to live on the earth thousands of years ago	81	11	9	76	9	16
289. find out how fish breathe	57	21	23	50	25	26
290. find out how we get rubber from trees	70	14	17	66	24	12
291. learn what makes the weather hot or cold	60	19	22	54	30	17
292. learn how an automobile motor works	66	23	12	30	30	42
293. find out why iron toys get rusty if they are left out in the rain very often	46	24	32	25	32	44
294. find out how your body uses the food that you eat	66	17	18	67	20	15